TECHNOLOGY REVIEW

December 1953

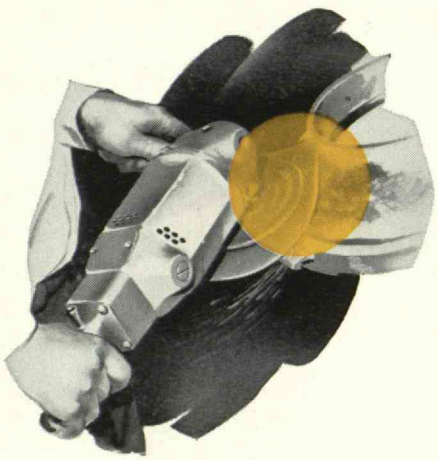


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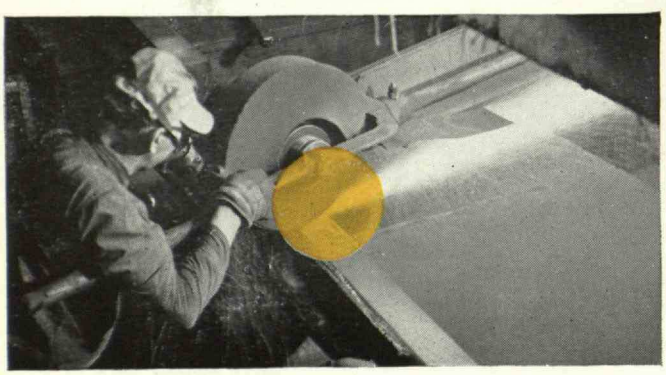
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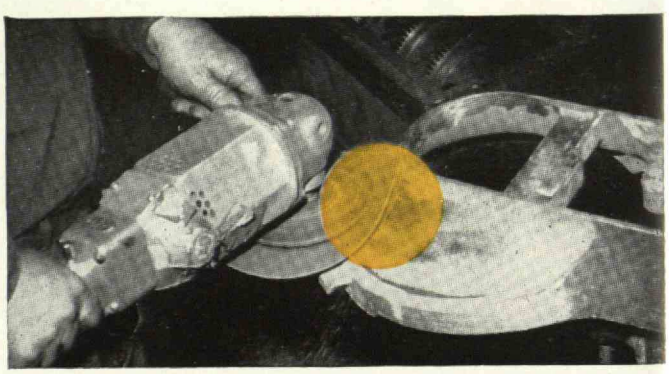


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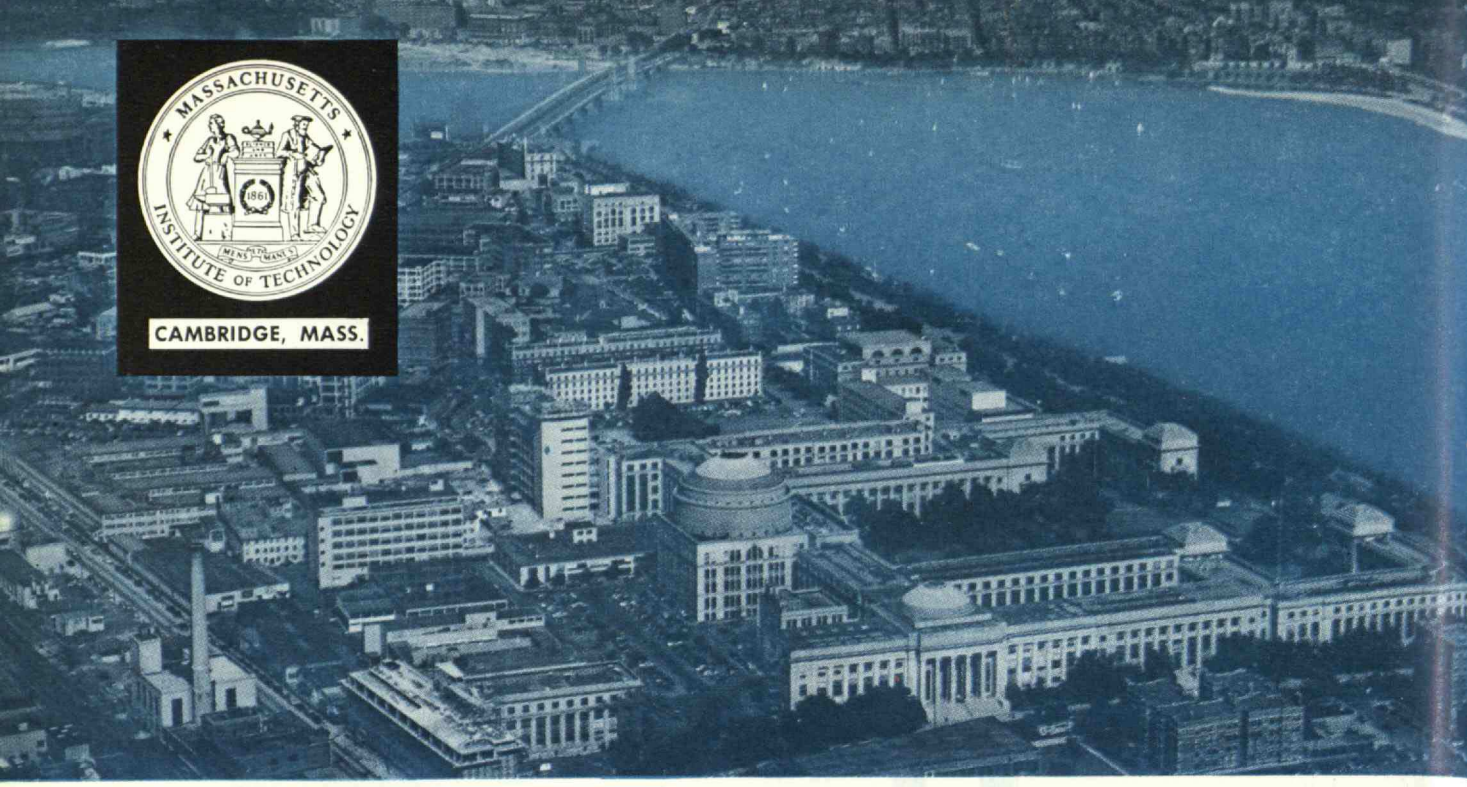
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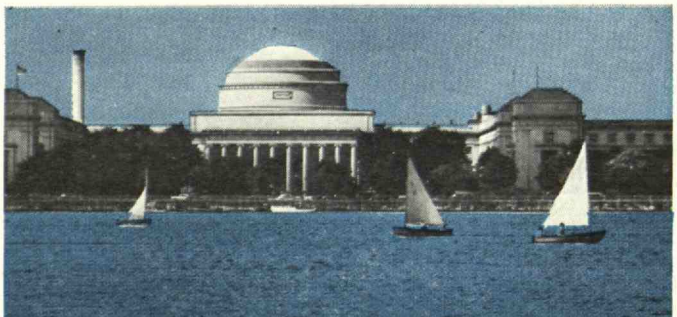
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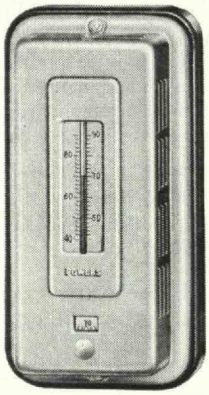
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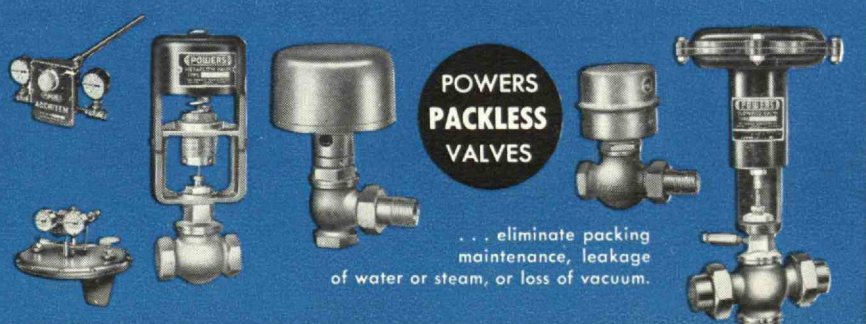
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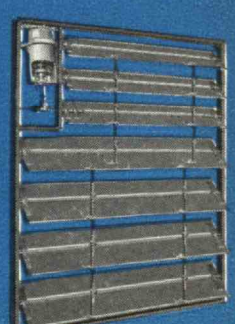
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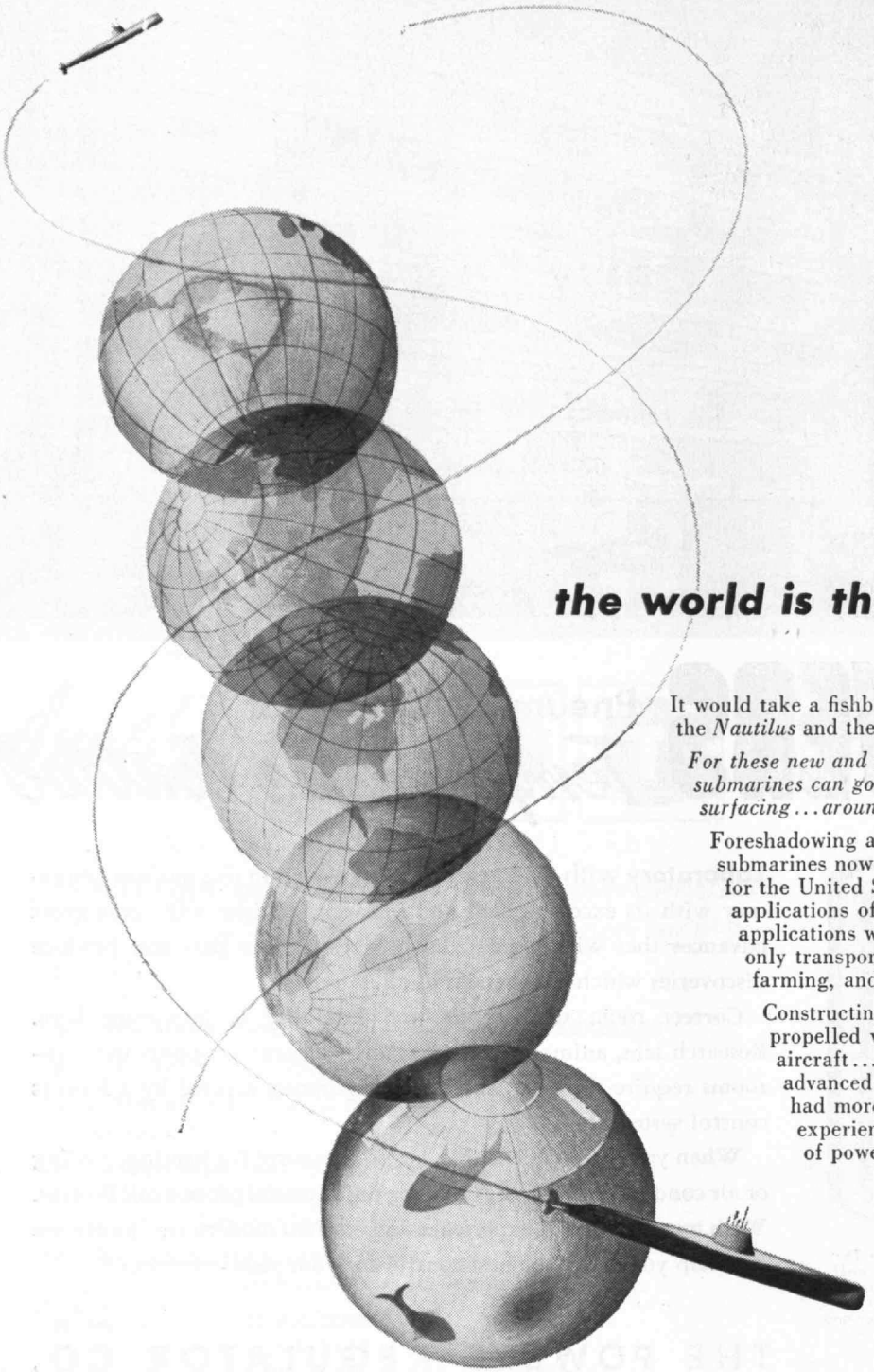




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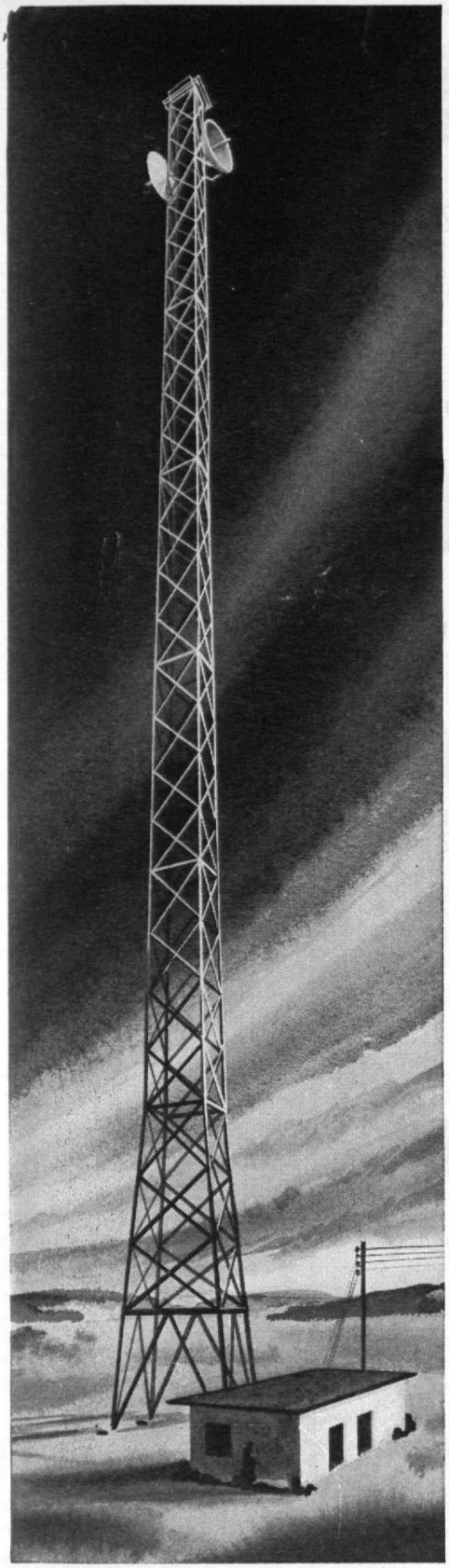
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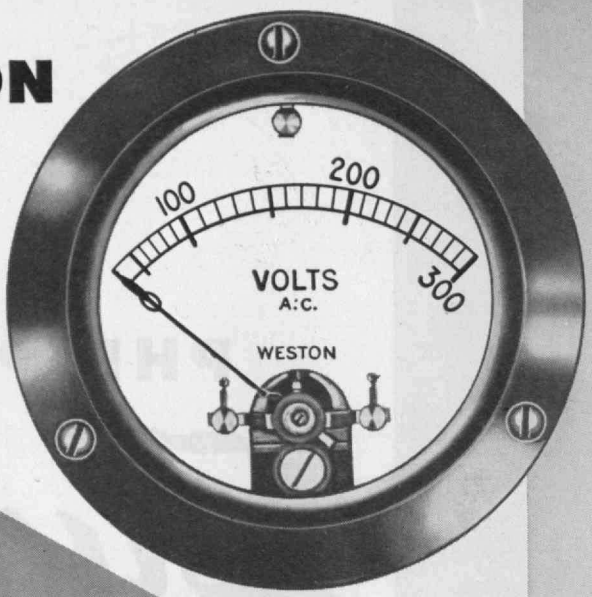
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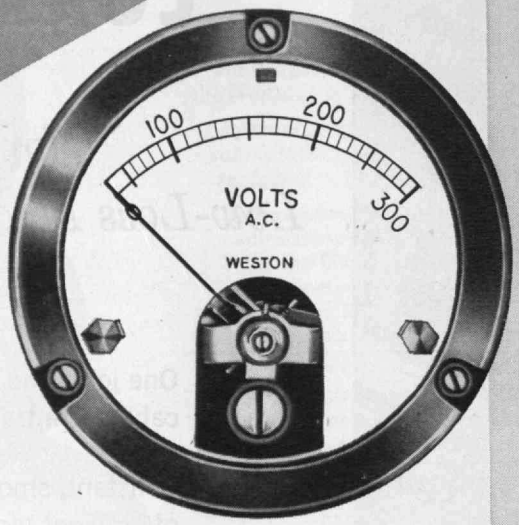
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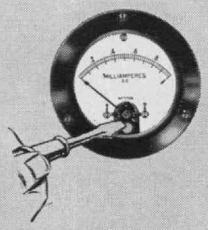
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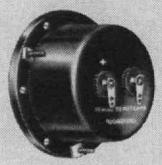


A-C ruggedized instruments

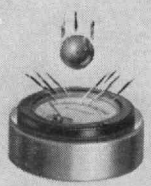




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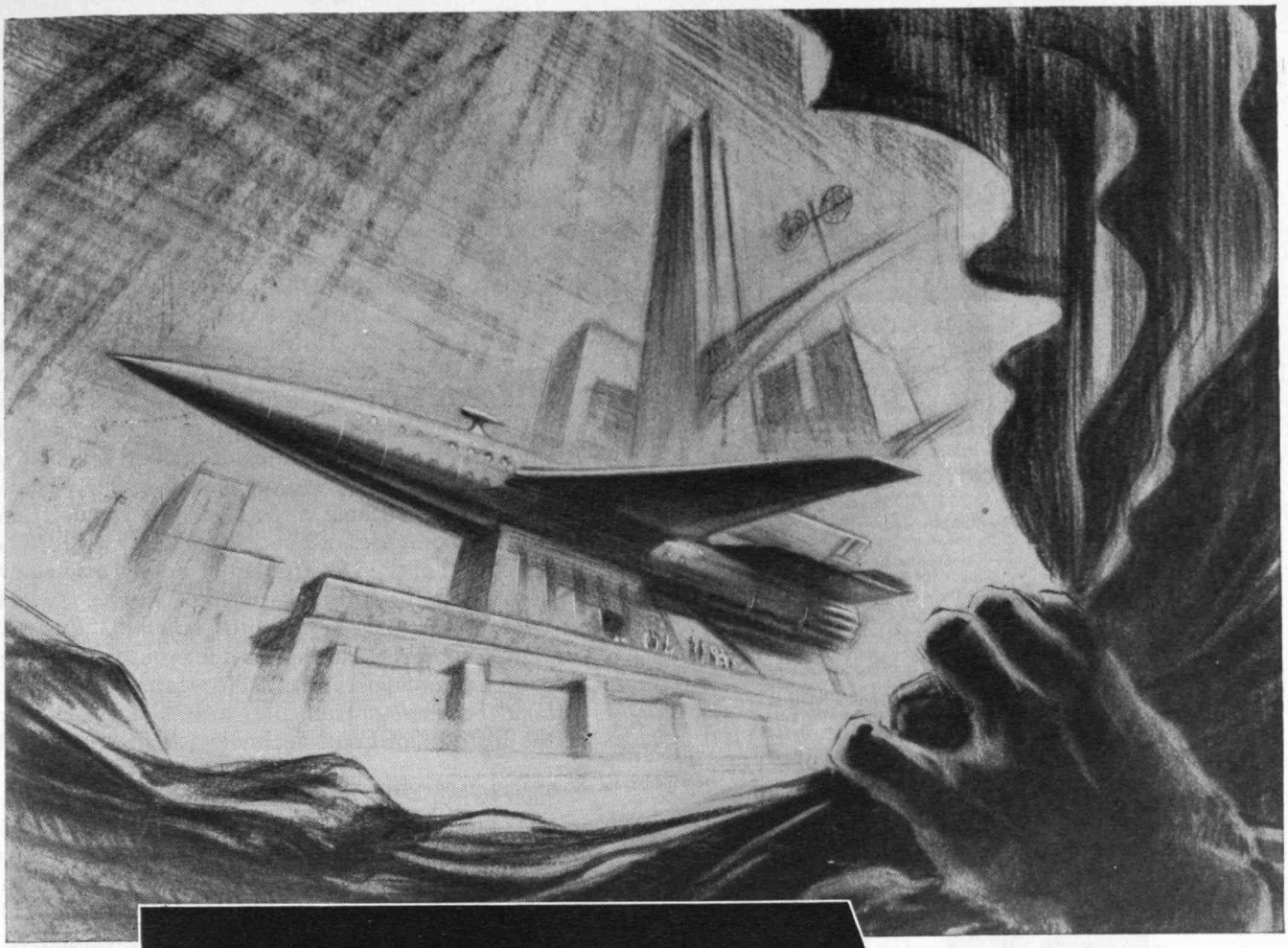
Dorrance Building. — This issue of The Review is devoted, almost entirely, to a description of the newest educational facilities at the Institute, and the use of the Dorrance Building by the Departments of Biology and Food Technology who, together, occupy this new structure. The description of the building itself (page 81) was written in The Review Office, and manuscript was reviewed by several who played important roles in the planning, building, or use of this new structure. Primary purpose of the lead article, this month, is to outline the physical structure of the building in sufficient detail that the rest of the articles in this issue will make a more effective contribution to an understanding of the use of this great new addition to the life sciences at M.I.T.

Biology in the Dorrance Building. — PROFESSOR FRANCIS O. SCHMITT, Head of the Department of Biology, provides an account (page 85) of the use to which the Dorrance Building will be put for teaching and research in the biological sciences. Dr. Schmitt has been head of the Department of Biology at M.I.T. since the summer of 1941. Born in St. Louis in 1903, Dr. Schmitt received the bachelor of arts degree from Washington University in 1924 and three years later was granted the degree of doctor of philosophy. From 1927 to 1929 he was National Research Council Fellow in the department of chemistry at the University of California. It was during this period that he also carried on advanced studies in the biochemistry department of University College, England, and at the Kaiser Wilhelm Institute, Berlin. Appointed assistant professor of zoology at Washington University in 1929, Dr. Schmitt became associate professor in 1934, and head of the department of zoology in 1939.

Biochemistry in the Dorrance Building. — PROFESSOR JOHN M. BUCHANAN began his association with the Institute on July 1, last, as head of the recently formed Division of Biochemistry in the Department of Biology. His article in this issue (page 87) deals with the Division's use of the new facilities which the Dorrance Building makes available. Dr. Buchanan was graduated in chemistry from DePauw University in 1938. He was awarded the master of science degree from the University of Michigan in 1939, and the Ph.D. degree in biochemistry from Harvard University Medical School in 1943. After three years as instructor and assistant professor in biochemistry at the University of Pennsylvania Medical School, he studied for two years, as a National Research Council Fellow, at the Medical Nobel Institute in Stockholm. Returning to the University of Pennsylvania in 1948, Dr. Buchanan was made associate professor in 1949, and professor in 1950.

Food Technology in the Dorrance Building. — PROFESSOR BERNARD E. PROCTOR, '23, Head of the Department of Food Technology, devotes his article in this

(*Concluded on page 70*)



BEYOND THE HORIZON....

Higher and higher the speeds; greater and greater the stresses.

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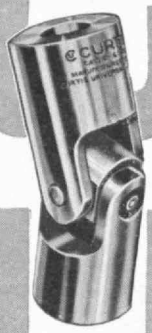
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issue (page 89) to the uses which the Department of Food Technology (including the Samuel Cate Prescott Laboratories) will make of the new Dorrance Building. Professor Proctor received the degree of bachelor of science in biology and public health from M.I.T. in 1923, and the degree of doctor of philosophy from M.I.T. in 1927. He was instructor in biochemistry at the Boston University School of Medicine from 1923 to 1926, and from 1926 on has been associated with the Institute's Department of Biology and Public Health. He was named professor of food technology when that Department was organized in 1944, and the following year became director of the Samuel Cate Prescott Laboratories of Food Technology. In 1952 he became head of the Department of Food Technology. In addition to the textbook, *Food Technology,* which he wrote with Professor Emeritus Samuel C. Prescott, '94, Dr. Proctor is the author of numerous papers published in scientific periodicals. He was associate editor of *Food Technology* from 1947 to 1949 and president of the Institute of Food Technologists for 1952–1953.

Salarywise. — By prewar standards, today's graduates from colleges of engineering and science manage to do quite well, financially speaking, when they leave the halls of learning to embark on their professional careers. A survey of the salaries earned by recent graduates of M.I.T., according to the degree awarded, has been made (page 78) by Mrs. Evelyn B. Yates, Alumni Placement Bureau, and these results are compared with similar studies contained in the "1952 National Survey of Professional Scientific Salaries" made by the Personnel Department of the Los Alamos Scientific Laboratory of the University of California. Although not as extensive as might be desired, the data may help to answer the question, "Is an advanced degree from M.I.T. financially worth while?"



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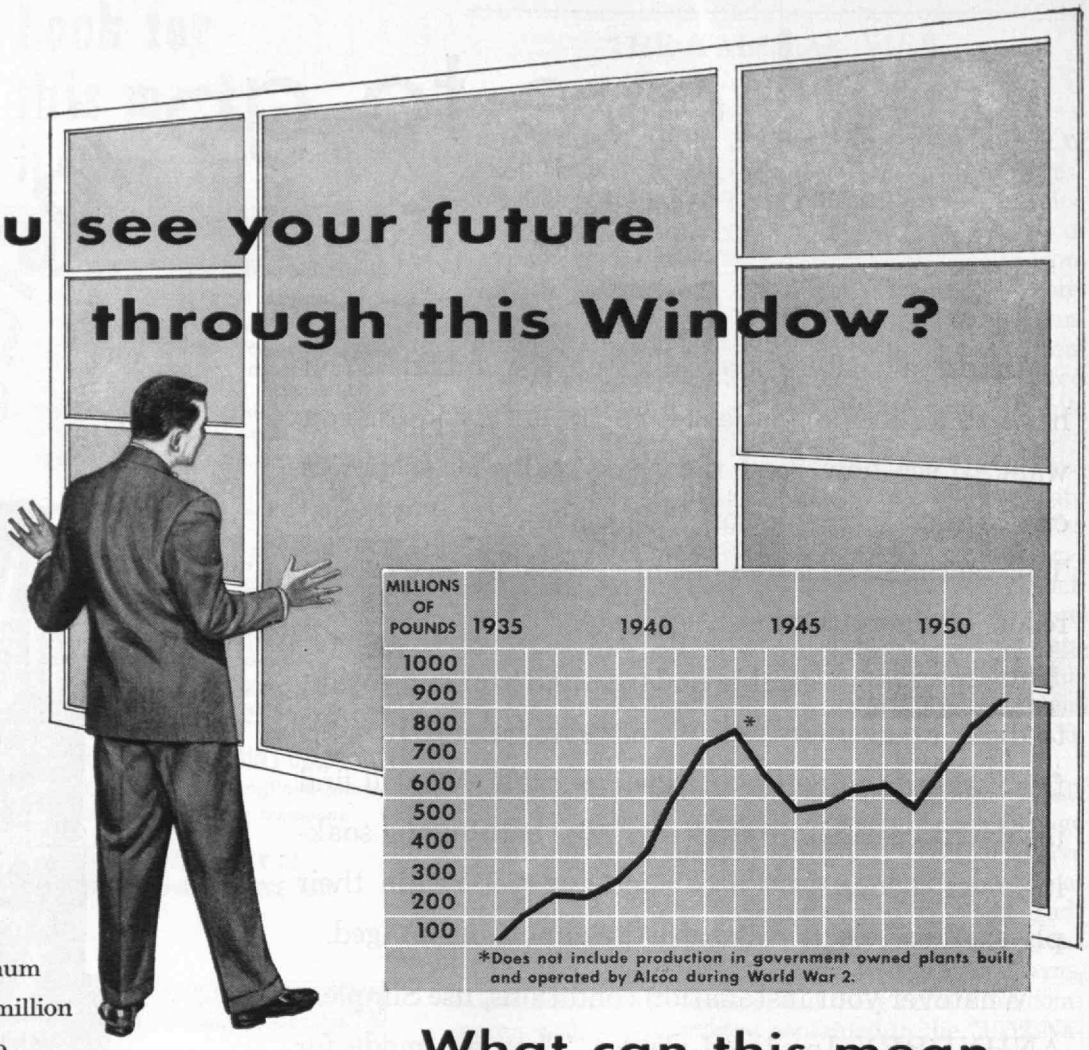


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What General Electric people are saying . . .

C. W. LaPIERRE

Mr. LaPierre is Vice President and General Manager—Aircraft Gas Turbine Division

". . . In my opinion, research and development organizations, including our many capable universities, should always be primarily interested in exploration which leads to establishing principles. They should not attempt, by themselves, to direct the course of aviation progress. For example, they should establish the operating limits on a particular material or the relative merits of different thermodynamic cycles. But they should not try to dictate how their findings should be used. This responsibility must be left to the designer. Research and development organizations should work with the industry in helping establish limitations and principles; they should anticipate problems and solve them. Their solutions make it possible for the aircraft industry to overcome obstacles that might otherwise delay progress for years.

But regardless of *who* conducts our research and development projects, or how they are conducted, the nation's efforts in this field must not be allowed to dwindle.

The Soviet has, and will undoubtedly continue to hold, the advantage of mass—mass of manpower and material. We cannot hope to overtake them on those two scores. But our system of government is such that it encourages freer thinking and more rapid development. Our defense lies in the ability to outdevelop them—to neutralize their ponderous weight of arms with more advanced machines and methods. Our nation is blessed with the brain power and facilities to press this advantage. Our danger lies in the curse of lethargy that would allow them to lie fallow.

at The Air Force Association
Washington, D. C.

A. W. SCHMITZ and H. L. PALMER

Mr. Schmitz is Manager of Equipment Engineering, Industry Control Department

Mr. Palmer is Manager of Electronic, Regulator and Aircraft Engineering, Industry Control Department

". . . Today's high production speeds require controls with swiftness of response that can no longer be supplied manually. Self-regulating controls are the answer. At the same time, there's a constant evolution of control principles and amplifying means to obtain even faster speeds of response, and more accuracy of performance.

In the 1930's, the amplidyne—or rotating amplifier—was applied in industry where the sensitive capabilities of electronic tubes weren't needed, and where there was reluctance to use such fragile equipment. In subsequent years, however, control equipments were designed using the electronic tube and amplidyne in combination. Today, by contrast, the trend is toward replacement of both types with the static, or magnetic, amplifier.

Of tremendous help to the engineer in solving the complex control problems that lie ahead will be mechanical and electronic calculating machines. For in addition to solving mathematical equations, they can be used to simulate the electric machinery for which the control is designed. Thus, a more thorough test of the control can be made in the factory prior to installation at the customer's plant. This new technique has already reduced installation and tune-up time to a high degree.

Controls of the future may well include computers and information-storage devices to permit measurement and integration of operating factors in a process. That is, the control itself will make necessary calculations and automatically correct the process to get the desired end product. When we reach this stage of control, our nation's industrial productivity will have no limits.

G.E. Review

C. F. GREEN

Dr. Green is Engineer—Advance Developments, Aeronautic & Ordnance Systems Division

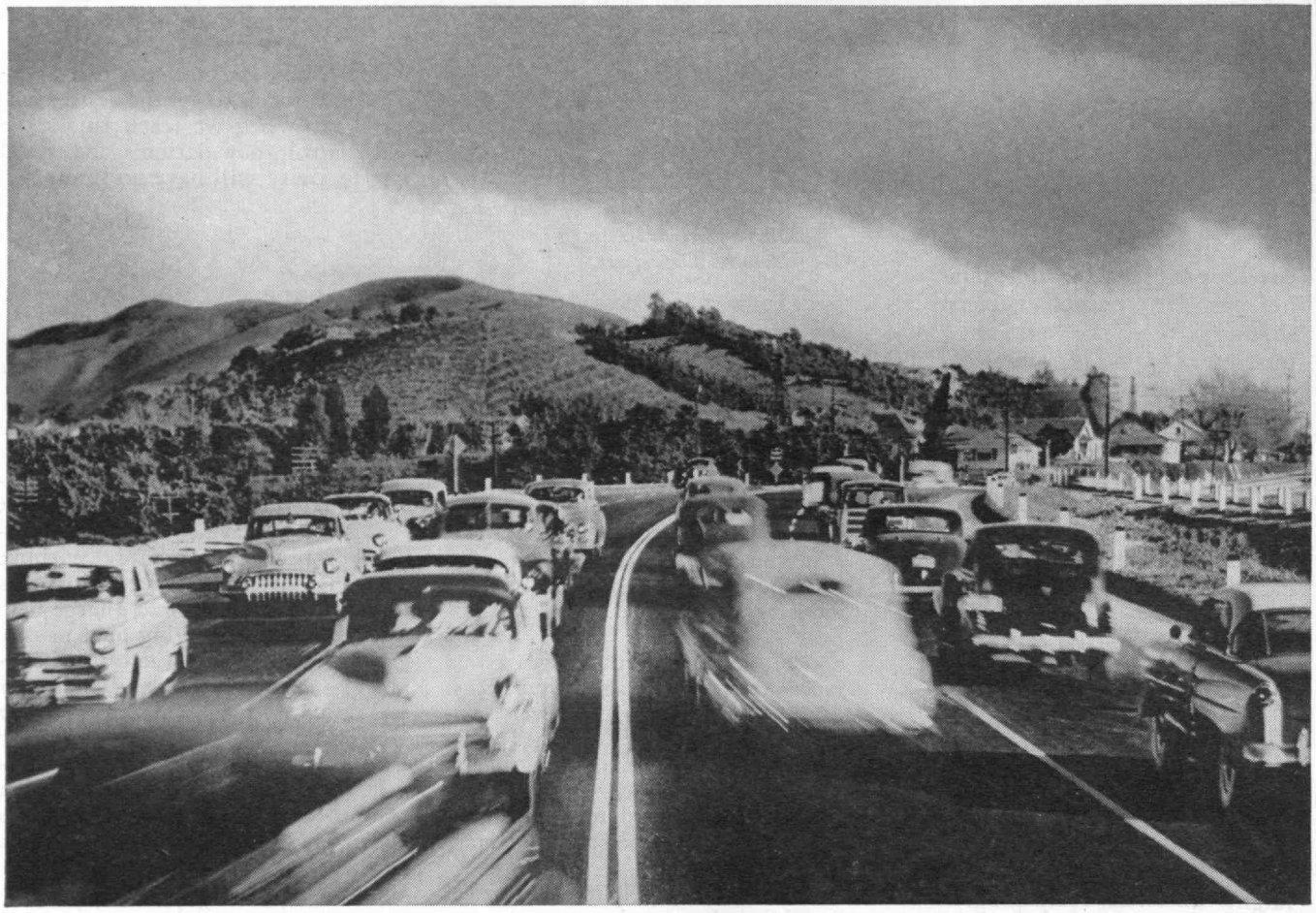
". . . The successful conduct of the rocket flight of a complex piece of experimental equipment is an arduous undertaking. Not only is it necessary to have equipment operating properly and reliably without personal attention; but also it is necessary to co-ordinate a large field of operations involving final missile assembly, handling and firing details, a network of optical and radar tracking stations, a system of radar receiving stations, a range safety group for protection of inhabitants and for command cut-off of rocket motor power in the event of a probably dangerous trajectory and a recovery group. Because of the large number of people involved in a firing, the date and hour of firing is fixed considerably in advance. Deadlines are not easy to meet with varied pieces of laboratory type equipment. There are problems of doing adequate pre-flight check-out of equipment under difficult field conditions—such as extreme temperatures, sand storms, rain, hail and winds. In general, each flight, since it carries different equipment, separately engineered for its particular requirements, places special problems upon the missile men as well as the experimental agency or agencies, all working together with a common incentive to accomplish the planned objectives.

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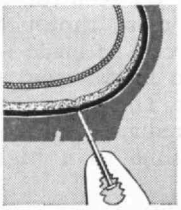
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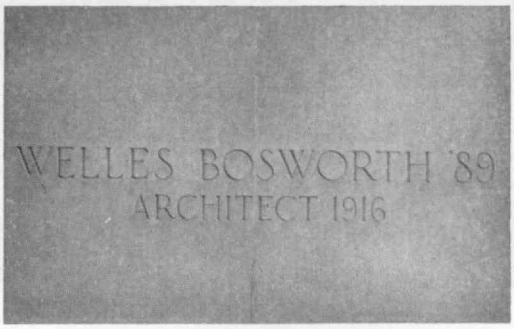
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GOODYEAR

LifeGuard, T. M.—The Goodyear Tire & Rubber Company, Akron, Ohio

Gravestone of Mother Goose (Nov. Contents page 11) is located in the Old Granary Burying Ground, beside Park Street Church, on Tremont Street, Boston, Mass.



How well do you know Boston?
Name of noted architect is carved on cornerstone of building that should be known to every Alumnus. Do you know where it is?

THE TECHNOLOGY REVIEW

TITLE REGISTERED, U. S. PATENT OFFICE

EDITED AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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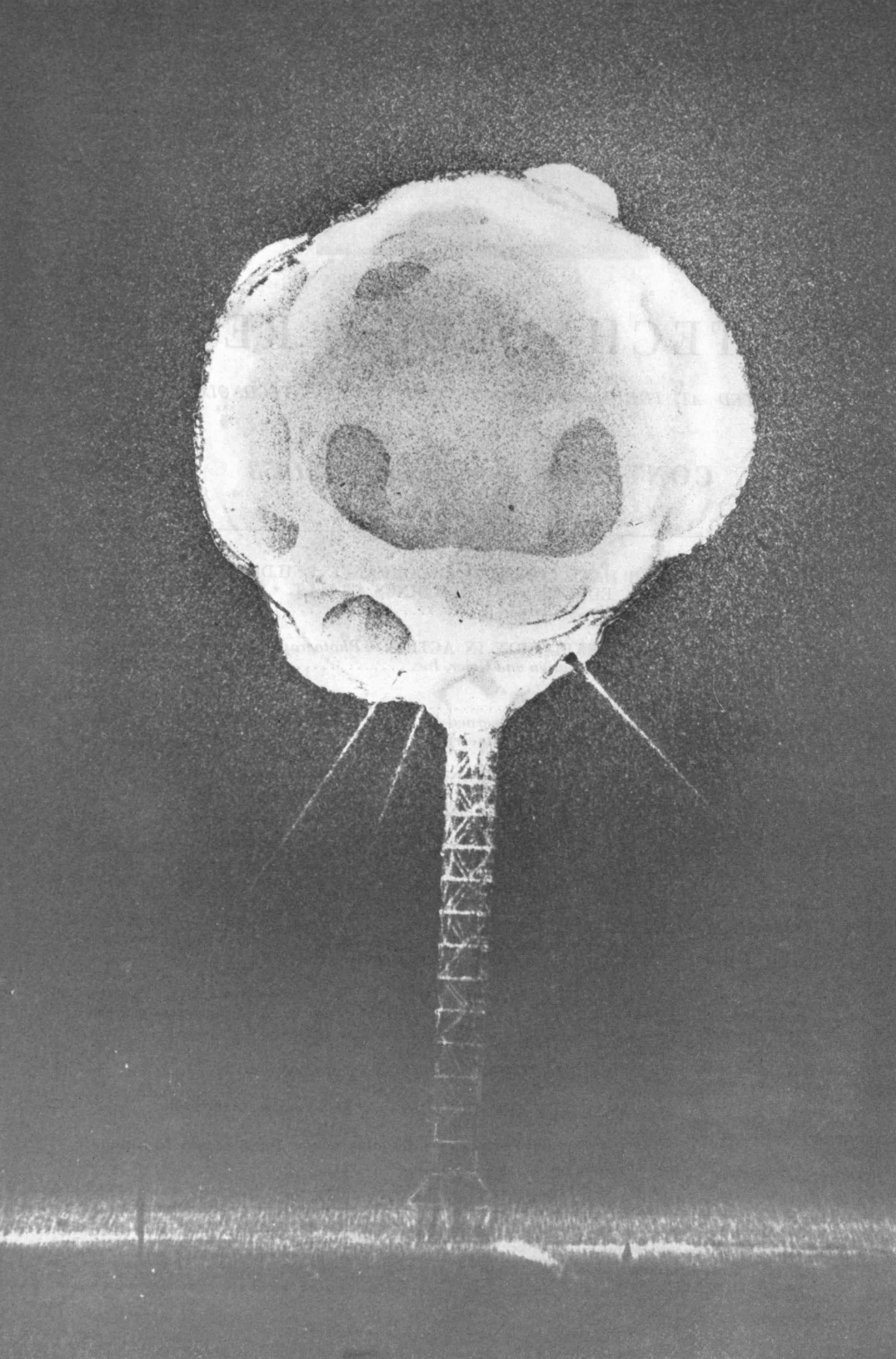
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THE TECHNOLOGY REVIEW

Vol. 56, No. 2 December, 1953

The Trend of Affairs

Atomic Explosion in Action

THE remarkable frontispiece photograph in this issue of The Review (opposite page), representing the work of Professor Harold E. Edgerton, '27, and his associates, is the result of a number of distinct contributions to modern science and engineering. First of all, the photograph is distinctly out of the ordinary because it shows the early phase of an atomic explosion. The shutter mechanism was actuated by the bright flash accompanying the explosion, and, while this feature is no longer unusual, it does depend upon technological progress in the field of photoelectric phenomena. Another unusual facet in the making of this print is the fact that the exposure time was but a few millionths of a second in duration.

As this issue of The Review goes to press, the print has just been released for publication by the Atomic Energy Commission, although the exposure was made at the Nevada Proving Grounds of the A.E.C. in the spring of 1953. The picture shows the very early fireball of an atomic explosion. A nuclear device, placed atop the tower, has just been detonated. The fireball has already consumed the upper portion of the tower and is seen progressing down the structure. The three lines from the top of the tower to ground are guy wires that had been used to stabilize the tower.

◄ ***Fiery ball from nuclear device disintegrates a steel tower shortly after detonation during tests made in the spring of 1953 at the Nevada Proving Grounds of the Atomic Energy Commission. Just released for publication by the A.E.C., this photograph was made by Professor Harold E. Edgerton, '27, and his associates. The exposure was made by means of the Faraday effect shutter, described on page 138 of The Review for January, 1951, which makes possible extremely short exposure times.***

Extremely short exposure times are required if any detail is to be recorded in photographs of explosive discharges. Obviously, no mechanical shutter is capable of opening and closing in a few microseconds — the exposure time required to yield a satisfactory print under the unusual conditions encountered in snapping an atomic explosion in action. Instead of the mechanical type of shutters, with which cameras are usually supplied, a polarized light-valve type of shutter making use of magneto-optic rotation, was used. As recorded on page 138 of the January, 1951, issue of The Review which outlines the principle of such nonmechanical shutters, the development of these high-speed shutters is a comparatively recent achievement. The operating principle on which they are based is by no means new, however. Indeed, as far back as 1822, Michael Faraday had determined that the plane of polarization of light traversing a material in a magnetic field is rotated when the light travels in the direction of the lines of force. The Faraday effect principle offers several important advantages over the electro-optic and birefringent methods, which also lend themselves to control of a polarized light-valve type of shutter. In both the latter methods, the angle of usefulness is limited to a low value; in addition, high voltages must be provided to bring about shutter action.

The photography of high intensity subjects, which persist at high levels of luminosity for fairly long periods of time, necessitates that the ratio of light transmission between the open and closed periods of shutter action be high. In the case of the magneto-optic shutter used in making this photograph, three crossed polarizing elements were employed to produce an open-to-closed transmission ratio of approximately 30,000,000. In other words, 30,000,000 times as much light passed through the shutter in the open condition as when the polarizing elements were crossed and the shutter was closed.

Salarywise — *By Evelyn B. Yates*

No matter how large one's income may be, the financial shoe seems always to pinch. Recent graduates of the Institute are especially interested in their professional progress as indicated by the frequently asked questions: "Are my classmates earning more than I am?" or "Could I do better, financially, if I changed my job?" A recent survey made by the Alumni Placement Office, and summarized in Fig.1, may help to answer such questions. Data for this graph were obtained from the 40 per cent of those members of the Classes of 1949, 1950, and 1951 who were not in military service at the time the study was made. The results set forth in Fig. 1 were compiled in May, 1953, from questionnaires sent out in March. No special claims are made for the validity of the graph. The size of the sample, the wide spread of salaries around each point on the graph, and the evident desire of participants to provide dependable data, nevertheless, support the belief that the information is reliable.

The graph of Fig. 1 shows the average salaries of men who have been working from two to four years. Salary ranges are given according to degree conferred and, in each case, average salaries as well as median, or halfway, values are indicated. Graduates of the Class of 1948 were not included in the survey. However, by averaging the salaries of S.B. graduates of that Class who registered with the Alumni Placement Office last spring, an average salary of $540 was indicated. The average starting salary of a person who received a bachelor's degree from M.I.T. in June, 1953, was $337 per month.

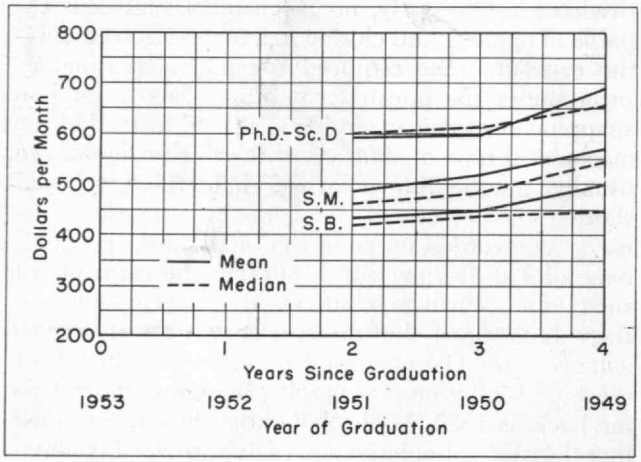


Fig. 1. Summary of salary data for three recent classes of M.I.T. graduates, according to degree conferred. Data from Alumni Placement Office.

Because men may wish to check their earnings as well as findings of the Alumni Placement Office against a study of a larger group, two graphs are reproduced from the "1952 National Survey of Professional Scientific Salaries" published by the Personnel Department of the Los Alamos Scientific Laboratory of the University of California. To quote their survey: "Returns were received from 197 contributors, including private industrial concerns, government agencies, AEC contractors, research institutes and consultants. The organizations reported salary data from 236 individual laboratories and covering 38,231 personnel holding academic degrees and engaged in research and development. The salaries reported were, for the most part, those in effect in August and September of 1952. . . .

"Employees whose duties are primarily supervisory or administrative, such as department heads or division leaders, have not been included in this study. . . . Production and profit-sharing bonuses, cost-of-living allowances, and similar adjustments to base salaries have been added to the monthly averages in cases where they were reported separately by the participants."*

The data for Fig. 2 do not differentiate between men holding bachelor's and master's degrees. Moreover the Los Alamos charts (Figs. 2 and 3) are based on time elapsed since bachelor's degree was awarded, whereas the horizontal scale for Fig. 1 is based on number of years since the highest degree was awarded. For purposes of comparison a man who received his doctorate in 1951 (two years since graduation) and who took four years to obtain this advanced degree, should enter Fig. 3 at the six-year mark.

Although a study of three classes is hardly adequate for the purpose, Fig. 1 may help answer the frequently asked question, "Is an advanced degree from M.I.T. financially worth while?"

* Wherever the data was given separately, profit sharing, cost-of-living allowances, and similar adjustments were omitted in the M.I.T. study.

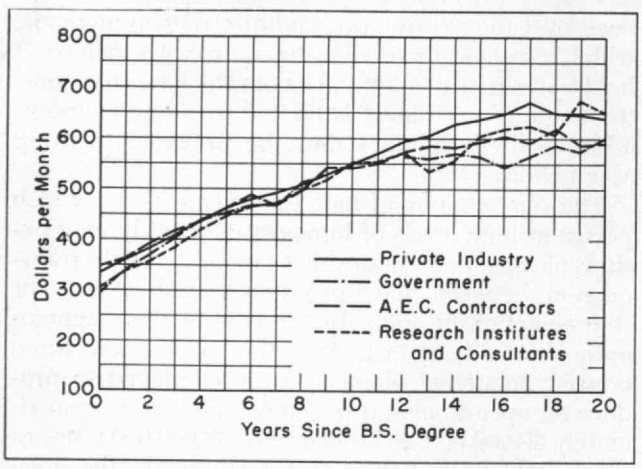


Fig. 2. Comparison of professional scientific salaries for those with bachelor's degrees, by general field of employment. Data from Los Alamos Scientific Laboratory.

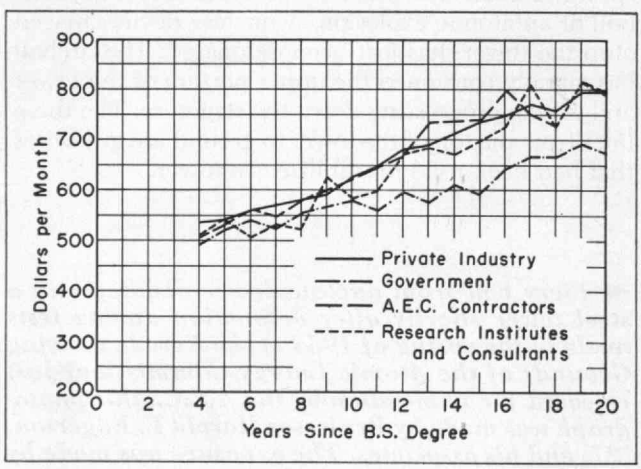


Fig. 3. Comparison of professional scientific salaries for those with doctorate degrees, by general field of employment. Data from Los Alamos Scientific Laboratory.

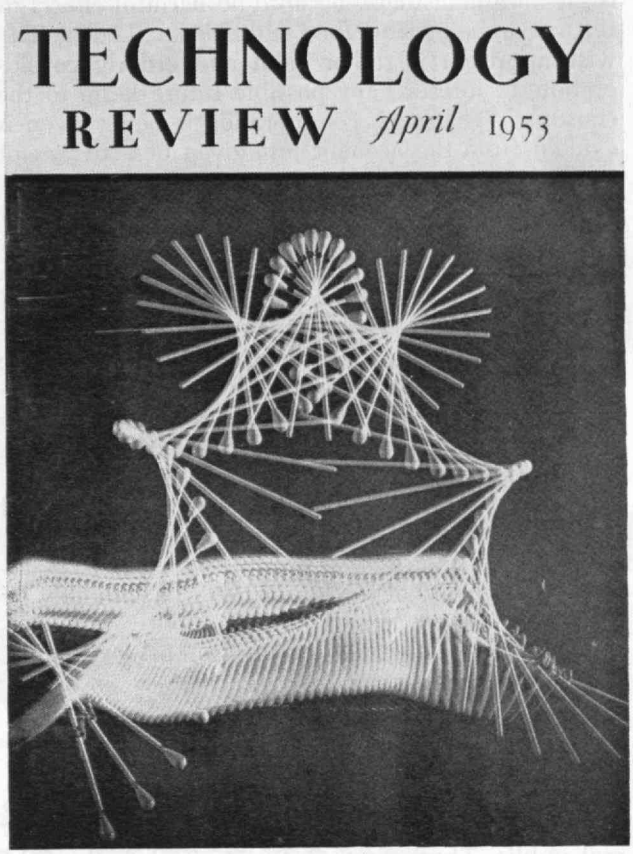
A.I.G.A. Recognition

THE Technology Review and Professor Harold E. Edgerton, '27, were accorded recognition in the Fourth Annual Magazine Show of the American Institute of Graphic Arts when this show opened its preview in New York on October 13. The A.I.G.A. Magazine Show is the only comprehensive exhibition of commercial magazines in the United States and affords opportunity to review, evaluate, and encourage high standards of accomplishment in the field of periodical publications.

Selected for exhibition in this show was the cover of the April, 1953, issue of The Review, reproduced in miniature at the right. The striking design of this cover, showing a young girl twirling a baton, is reproduced as this action would be seen at successive intervals of 1/60th of a second. The photograph was made by Dr. Edgerton, Professor of Electrical Measurements at M.I.T., and well known for his developments in flash photography, stroboscopic light sources, and contributions to photographic illuminants.

According to a statement of George Samerjan, chairman of the A.I.G.A. Magazine Show, "each entry honored by selection will have been so designated because of the magazine's achievement in attaining the maximum of interest, good taste and outstanding design and production under the circumstances of size, content, purpose and circulation."

Although the striking design of Professor Edgerton's photograph was undoubtedly the major factor in selecting the April cover for hanging, a wealth of technical information may be derived from this illustration, as Karl R. Kennison, '08, showed in the Mail Returns column in the July, 1953, Review. From the cover, Mr. Kennison located the parabolic trajectory of the center of gravity of the baton, determined the scale for the photograph from this trajectory and knowledge that successive exposures were 1/60th second apart, and then calculated the baton's length correctly to within less than 3 per cent of its true length of 29 11/16th inches.



Reproduction of The Review cover whose unusual stroboscopic photograph by Professor Harold E. Edgerton, '27, received recognition from the American Institute of Graphic Arts.

Plus Factors

THE day is long past when people subsisted mostly on vegetables raised in their own gardens, and on meat from animals raised and slaughtered locally. Today a great deal of our food undergoes processing, packaging, and distribution before reaching us. Because of this handling it has become expedient, sometimes necessary, to add certain materials to some foods to prevent deterioration, to improve physical properties, or otherwise to promote consumer acceptance.

Chemical pesticides, frequently applied to agricultural crops to combat insect pests, are another source of substances added to foods. Although pesticides are not intended to remain in foods as consumed, complete removal before the food reaches the consumer's table may be difficult or impossible. Still another source of food additives is the current practice of feeding or otherwise administering, to livestock and poultry, antibiotics or hormones designed to promote growth and thereby increase weight at the time the animal is slaughtered.

In recent years there has been substantial concern over possible baleful effects upon the consumer of these food additives derived from various sources. Indeed from 1950 through 1952 the topic came under the scrutiny of a congressional committee, the House Select Committee to Investigate the Use of Chemicals in Foods and Cosmetics, popularly known as the Delaney Committee. This group heard testimony that was published in four volumes totaling 2,745 pages. It published 98 pages of printed reports, presenting a majority recommendation that legislation be enacted to require toxicity tests of all food additives before they are used. A minority of the committee disagreed with this recommendation. Beyond doubt the question has two sides, and many ramifications.

The interest in possible toxic effects of food additives has now led attention into another facet of the question; their possible influences on flavor and other quality characteristics of foods. Recent research reports, of quality tests of foods grown with and without chemical insecticides, reveal that such attention is warranted. Thus the flavor of peanuts and peanut products – and even of foods fried in peanut oils – was found to be poorer when conventional insecticides were employed in growing the nuts than when they were grown without insecticide treatment. The flavor of sweet potatoes was likewise found to be adversely affected by use of some standard insecticides.

But similar studies of cherries gave equivocal results. Unfortunately the issue of food additives has been somewhat beclouded, because it has been prime ammunition for the sensationalist, the yellow journalist, and the food faddist. Alarm and sensationalism in this regard are unjustified, because no harmful effects to the human being from food additives are known. The wise approach is rather calm and orderly consideration, to forestall any possible future harm to the consumer. That such consideration is being given is evident from the account just given of activities of the Delaney Committee in Congress.

Furthermore, the Food and Drug Administration of the federal government in 1950 held eight months of hearings, concerning safe tolerances for residues in foods of chemical pesticides used in the raising of agricultural crops. The testimony taken has been reviewed by the United States Public Health Service as well as by the Department of Agriculture. It is expected that allowable insecticide residue tolerances will be promulgated by the government in time for the 1954 growing season.

Thus it is clear that possible toxic effects of food additives are receiving good attention. The consumer may also rest assured that possible effects of food additives on quality of foods will be dealt with ably by the food industry, who find it competitively advantageous to provide foods of as high quality as possible.

A Look at the Electronics Field

A DECADE ago "electronics" was a magic word to many in the engineering field as well as to the general public. Those employed or trained in the field were rapidly being absorbed into service for national defense in the development of radar, sonar, and similar systems of detection or communication. It was under such conditions that the present editor of The Review, then in Chicago, became one of the initiators of the first National Electronics Conference. Modestly planned as a national forum on electronic developments and their application for a body of 400 expected participants, the first conference on October 5-7, 1944, drew 2,300 scientists and engineers, as recorded in "Freedom Party" in the Trend of Affairs section of the December, 1944, issue of The Review. Every year since, the annual fall programs of the N.E.C. in Chicago have attracted national attention.

At the N.E.C. this year, scores of papers on technical topics were presented. While most of them were on highly specialized topics, a luncheon address delivered on September 30 by H. B. Richmond, '14, is of sufficiently general interest that The Review takes pleasure in extracting portions of Dr. Richmond's remarks entitled "Opportunities and Responsibilities of Employment in the Electronics Field." Said Dr. Richmond in his address:

"I would like to take a moment to comment on some of the educational phases of electronics, because it is from the technical institutions that come our personnel in search of employment. For the moment I am excluding graduate students in the sciences, while, in particular, I want to refer to those training in electrical engineering. Ten years ago nearly all of the electrical engineering courses had two options, colloquially referred to as heavy currents and light currents. The former were obviously for the public utility and heavy electrical manufacturing industry. The latter were what we now refer to as communications or electronics. The former usually dealt with the generation, distribution, and utilization of power together with electrical machinery design. Too often these courses became what is now sometimes referred to as 'cook book' courses, as they often are of the 'how to do' type. Yet, let there be not too much belittling of these courses, because they have produced many public utility and manufacturing executives.

"Since World War II, however, there has been widespread concern among electrical engineering educators and leaders of the large industrial corporations over the fact that the general field of electric power is not attracting students in sufficient number nor of adequate intellectual ability to meet the demonstrated needs of the times. Should schools continue to allocate faculty and facilities to a declining field? With the rapidly expanding use of electric power, dropping power courses is out of the question. Actually what seems to be needed is the broadening of the base of scientific substance and an upgrading of professional content in the broad fields of energy conversion and energy utilization, which would make it possible for a graduate to enter either the heavy current or light current field, as opportunity and desire presented themselves. The control and conversion of energy, whether it be megawatts or microwatts, is the core of the problem. All electrical engineers should henceforth receive instruction in materials as well as in magnetic and dielectric amplifiers and transducers. The treatment of the dynamics of energy conversion in a system is becoming much more important than steady-state studies. Engineering also must stay very close to the sciences.

"Whenever I discuss educational programs, I am always reminded of Thomas Jefferson's comment on college graduates. He said of some – fortunately a minority – 'They neither possess knowledge enough to be skilled in the sciences or the arts, nor industry enough to be useful in commerce and trade.' And at this point, I want to emphasize that while many less than average students will find employment in the broad field of electronics, the field is a highly technical one; it is rapidly advancing and terrifically competitive, and except for those satisfied with minor status, it has no permanent place for the type of persons referred to by Jefferson."

After recording the growth and common interests of the Radio Manufacturers Association, the American Institute of Electrical Engineers, and the Institute of Radio Engineers – all active in the electronics field – Dr. Richmond continued:

"Before we look at electronics a little more closely, let us briefly refer to the country as a whole. No matter what industry we are in, it cannot be overlooked that in the forty-two years of the existence of the I.R.E. the national debt has grown from 1.2 to 275 billions of dollars. Even with our substantial population growth, this means that in 1912 each individual in the country had a twelve-dollar share in the national debt. Today

(*Continued on page 120*)



Gottscho-Schleisner

As skyscraper among the Institute's educational buildings, the Dorrance Building dominates the Cambridge campus.

The Dorrance Building

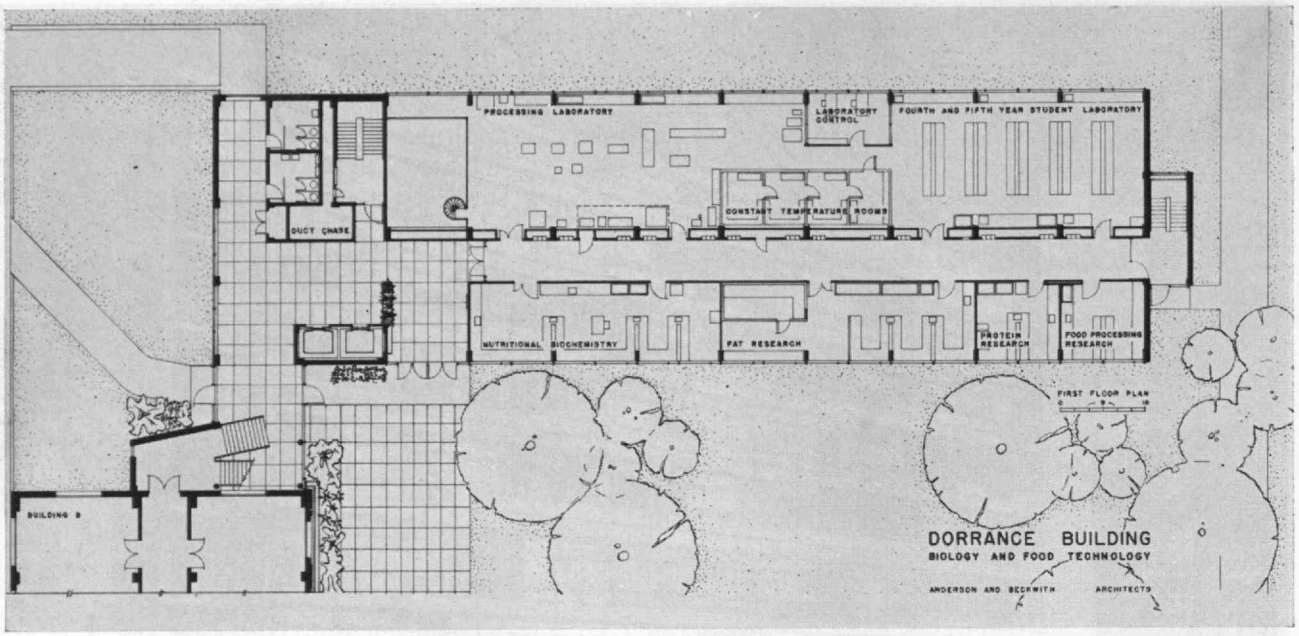
Latest Addition to the Educational Buildings at M.I.T. Houses the Departments of Biology and Food Technology

By THE TECHNOLOGY REVIEW STAFF

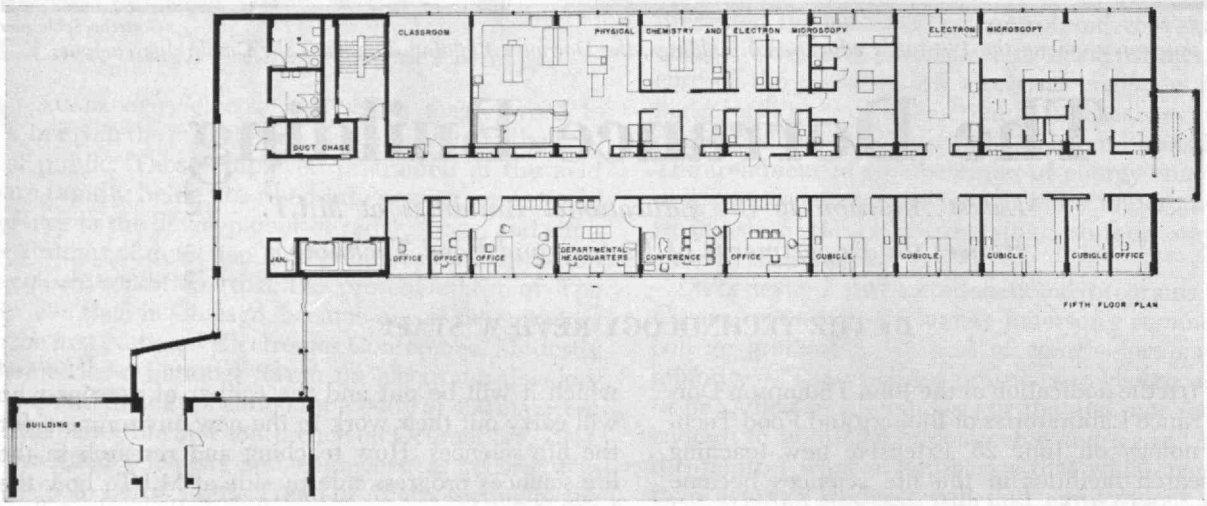
WITH the dedication of the John Thompson Dorrance Laboratories of Biology and Food Technology on June 25, extensive new teaching and research facilities in the life sciences became available at M.I.T. Named for a prominent member of the Class of 1895, the new building, eight stories in height, is the "skyscraper" of the Institute's educational structures; from its top floors, it commands a sweeping view of the Charles River and the Beacon Hill section of Boston to the south, and looks over Cambridge toward Harvard University on the north.

The opening of the new building enabled the Department of Food Technology to move from its quarters on Vassar Street, where it occupied space in a temporary wooden building erected for emergency use during World War II, to solidly constructed modern quarters which are sumptuous by comparison. It also enabled the Department of Biology to vacate space it had occupied on the fourth floor of Building 8, which space has now been put to full use in a modernization program for the Department of Electrical Engineering.

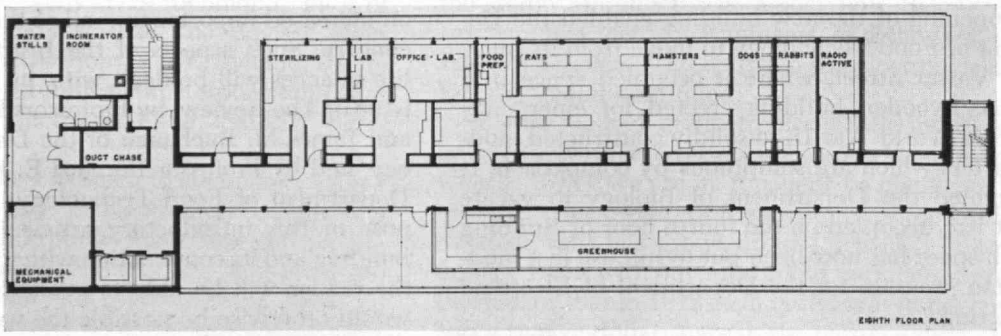
The most important part of any new physical facility for teaching or research, of course, is the use to which it will be put and the caliber of persons who will carry out their work in the new environment for the life sciences. How teaching and research in the life sciences progress side by side at M.I.T., how the Institute's program prepares its graduates to follow careers in the medical, food, pharmaceutical, and similar fields, how the work at M.I.T. aids in safeguarding the quality of modern foods, how radioactive tracer, x-ray, and electron microscope studies bring new techniques of instrumentation to bear on the life sciences, how the program in biochemistry is taking on increased importance – all of these are of primary concern. Such aspects of the Institute's work in the life sciences will be dealt with, in later pages of this issue of The Review, by Professors Francis O. Schmitt and James M. Buchanan of the Department of Biology, and by Professor Bernard E. Proctor, '23, of the Department of Food Technology. The primary purpose of this introductory article is to describe the building and its construction with sufficient detail that the reader will be able to evaluate more fully than would otherwise be possible the work being done by the two Departments now occupying the Dorrance Building.



Plan of the first floor (ground level) of the Dorrance Building. The corridor through the building is offset from center, with larger laboratories and classrooms toward the north, and offices and smaller classrooms facing the south.



Floor plans for the fifth floor, occupied by the Department of Biology, are representative of space arrangements throughout most of the Dorrance Building.



For the most part, the eighth floor is devoted to animal quarters, on the north, and a greenhouse where plants can receive sunshine throughout the entire day.





Entrance to Dorrance Building, looking toward Building 8, at the ground level. Glass tablet at main entrance on first floor commemorates John Thompson Dorrance, '95, for whom building is named.

Gottscho-Schleisner *M.I.T. Photo*

The new building is modern in every sense of the word. It is approximately 200 feet long and 57 feet wide, extending east from Building 8 with one corner near the Alumni Pool. The exterior is of buff brick, which harmonizes well with the gray limestone of the earliest structures. The north and south faces are composed almost entirely of glass, so that ample natural illumination is available during the day. Access to the building is by any of three entrances. The main corridor extending the total length of the building leads into Building 8. Close by, a separate entrance, near two elevators in the southwest corner of the building, leads to a parking lot and grass field, whereas entrance and separate stair well are located at the eastern end of the building near the Alumni Pool.

As one enters the building, a simple glass tablet, shown above, has been erected "in grateful tribute to John Thompson Dorrance, Class of 1895, creative food scientist and outstanding administrator whose energy, initiative, and skill greatly advanced the well-being of mankind." Turning to the left, two elevators operate between the basement and the eighth floor. A public telephone is located adjacent to the stair well near the elevators on the first floor. Entrance from the Dorrance Building to Building 8 of the older M.I.T. structures is available on the five lower floors of the Dorrance Building.

Exterior building surfaces are of glass and buff brick, and interior walls are either of buff tile or cinder block painted in light colors. Floors are of concrete or may be covered with linoleum or carpeting. Fluorescent lighting is used throughout all offices and corridors. In the corridor on each floor is an electrically operated clock, call bell, and adequate hoses and other fire-extinguishing apparatus. Air conditioning is provided for the animal house.

Although there are, of course, noticeable differences in the details and arrangement on each floor, in general all floors follow the same general plan. The offices, departmental headquarters, and most of the conference rooms are located on the south side of the building with rooms bearing odd numbers. On the north side of the building, across a long corridor that runs the entire length of the building, are the even-numbered rooms. As a usual matter the even-numbered rooms are given over to laboratories, classrooms, and related educational and research functions. A brief summary of the facilities found on each floor may be in order at this point.

The eighth floor is devoted to two rather specialized functions. The south side – toward the sun – contains a greenhouse where plants will prosper primarily under the aegis of the Department of Biology. On the north side of the building, in air-conditioned quarters, are the animal cages for rats, hamsters, dogs, and rabbits. The animals will be used primarily for studies in nutrition, and hence this portion of the building is under the administration of the Department of Food Technology. A floor plan for the eighth floor is shown on page 82.

The seventh floor, occupied by the Department of Biology, has offices for several professors and a seminar room on the south side. On the north side are laboratories for x-ray diffraction, spectroscopy, and medical instrumentation, as well as a large room for biophysics instruction.

The sixth floor, occupied also by the Biochemistry Division of the Department of Biology, contains offices and laboratories, including a large room for graduate students. There is also a laboratory for research in enzymology on this floor.

On the fifth floor are the headquarters of the Department of Biology, offices, and a large classroom. In addition, laboratories devoted to electron optical research, electron microscopy, and the chemistry of nerves are located here.

As usual, the fourth floor has a number of offices, but most of the space on this floor is devoted to instruction in undergraduate biology. A pair of refrigerated rooms is in the center of the building on the north side, and large laboratories are devoted to instruction in biology, physiology, and biochemistry. In addition there is a microbiology preparation room.

The third and lower floors are largely occupied by the Department of Food Technology. The headquarters of the Department, offices for professors, and a conference room are on the south side of the third floor. Laboratories for radioactive mineral research, and for food chemistry, together with a large classroom, complete the major rooms on this floor. The

Department of Biology has a laboratory of physical chemistry of proteins on the third floor.

The Samuel Cate Prescott Laboratories of Food Technology are located on the second floor. This floor is devoted almost exclusively to laboratory facilities, and includes rooms for flavor research, food radiation research, food packaging, biochemical engineering, histochemical research, bacteriological research, industrial microbiology, and a laboratory for graduate students.

The first floor houses laboratories devoted in large part to food processing, with smaller laboratories devoted to irradiation sterilization of foods, nutritional biochemistry, and fat and protein research.

The basement is, in large part, devoted to shop and storage and maintenance activities, but even here there are laboratories. The Biology Department is responsible for the administration of the shops. Food Technology research and aquaria of the Biology Department foster the research aspect of the building. A large room for laboratory apparatus and supplies is also located here, together with machine shops for both departmental and for staff use. Large rooms are also set aside for storage of foods and other materials used by the Departments.

The history of the Dorrance Building is brief but interesting. The new building is one of the major additions to the Institute plant to stem from its postwar development program. Badly in need of new quarters for both the Department of Biology and the Department of Food Technology, the Institute placed the laboratory high on the priority list of projects to be built as soon as possible. The building was made possible through generous grants by the Campbell Soup Company of which Mr. Dorrance was president for many years. James McGowan, Jr., of the Class of 1908, now serves as chairman of the Board of Campbell Soup Company.

In October, 1950, in his report to the Corporation, James R. Killian, Jr., '26, President of the Institute, indicated that the design of the new laboratory, by Anderson and Beckwith, architects, was nearing completion. The Sawyer Construction Company of Boston was chosen as general contractors for the erection of the building. Ground for the new building was broken on November 15, 1950. At these ceremonies, Oliver G. Willits, vice-chairman of the Board of Campbell Soup Company, and Mrs. John Thompson Dorrance made presentation addresses for the donors, and President Killian and Karl T. Compton, chairman of the Corporation, made acceptance addresses for the M.I.T. Administration. The Dorrance Building was virtually completed and occupation of the building began in the summer of 1952. By Alumni Day, June 15, 1953, the Dorrance Building was ready for its first "open house" reception, and many who visited the Institute on Alumni Day took opportunity to inspect the splendid new facilities.

Speakers who took part in the dedication ceremonies of the Dorrance Building on June 25 included (in reading order): James R. Killian, Jr., '26, Detlev W. Bronk, George R. Harrison, Francis O. Schmitt, and (standing) Oliver G. Willits. Bernard E. Proctor, '23 (hidden by Mr. Willits), also took part in the dedication addresses.

M.I.T. Photo



The Dorrance Building was dedicated on June 25, at exercises attended by distinguished biologists and food technologists from various parts of the world. George R. Harrison, Dean of the School of Science, presided at dedication ceremonies at which the speakers were Mr. Willits, President Killian, and Professors Schmitt and Proctor. A scholarly address of dedication was made by Detlev W. Bronk, then President of the Johns Hopkins University and of the National Academy of Sciences, now President of the Rockefeller Institute for Medical Research.

Following luncheon, scientific symposia on "Perspectives in Quantitative Biology" and on "Global Concepts of Food Technology" were held in the afternoon. Professor Schmitt was chairman of the symposium on "Perspectives in Quantitative Biology" at which papers were presented by: Professor Paul A. Weiss of the University of Chicago, on "Engineering Principles in Tissue Growth and Repair"; Professor George W. Beadle of the California Institute of Technology, on "The Place of Genetics in Biology"; Professor A. Baird Hastings of Harvard Medical School, on "Changing Frontiers of Biochemistry"; and Professor John T. Randall of Kings College, University of London, on "The Structure of Nucleic Acid and Some Biological Implications."

The speakers at the symposium on "Global Concepts of Food Technology," under the chairmanship of Professor Proctor, were: Samuel C. Prescott, '94, Professor of Industrial Biology, Emeritus, at M.I.T., on "Food Technology Horizons – Past and Present"; William H. Cook of the National Research Council of Canada, on "International Problems of Food Technology and Their Solution"; C. Glen King of The Nutrition Foundation, Inc., on "World Nutrition and the Role of Food Technology"; and John R. Robinson of the U.S. Atomic Energy Commission, on "Peacetime Applications of Atomic Energy." The Institute of Food Technologists sent greetings with Berton S. Clark of the American Can Company Research Laboratories.

A new chapter in the Institute's history began when, in new quarters, the Department of Biology opened its first full year of operation with the beginning of the school year in September, 1952, and the Department of Food Technology inaugurated its working program in the spring of 1953. If the past performance of these Departments, or the caliber of the addresses at the opening symposia, are indicative, the chapter about to unfold in the Dorrance Building will be a brilliant one.



Gottscho-Schleisner

General view of conference room, fifth floor Dorrance Building, adjoining headquarters of the Department of Biology. Through open doors, offices beyond the conference room are, in order, headquarters of the Department of Biology, office of Professor Richard S. Bear, Executive Officer of the Department, and a smaller office.

Biological Science at M.I.T.

An Account of the Institute's Teaching and Research Activities on the Frontiers of Biophysics, Biochemistry, and Physiology

By FRANCIS O. SCHMITT

THREE events highly significant in the history of the life sciences at Technology occurred during the academic year 1952–1953: The new John T. Dorrance Building was completed and occupied by the Departments of Biology and Food Technology; these new facilities were dedicated with inspiring ceremonies on June 25, 1953; and a new Division of Biochemistry was established.

Despite the fact that M.I.T. was one of the first American institutions to offer an undergraduate curriculum in biology, Alumni, friends, and visitors continue to express surprise that we offer undergraduate instruction in biology at the Institute. Actually much care and thought are devoted to this aspect of the teaching program and the new facilities furnish new opportunities to improve this instruction. From half to two-thirds of Course VII undergraduate majors are premedical students. An unusually high percentage (frequently all) of these students is accepted by medical schools and their record in medical school has proven very good.

Teaching Laboratories

The undergraduate teaching laboratories are concentrated on the fourth floor. The nine bays on the north side provide for the laboratory instruction in biology (general biology, genetic cytology, embryology, which are sophomore and junior subjects), physiology (general physiology and enzymology which are senior and graduate subjects), and biochemistry (introductory and advanced biochemistry and microbiology, given in the junior, senior, and graduate years). Each laboratory has an associated



◀ *Large classroom on the third floor of the Dorrance Building, which is also used for seminars and colloquia.*

Gottscho-Schleisner



This fourth-floor laboratory, for instruction in biochemistry, is typical of the experimental and research facilities with which the Dorrance Building is provided. ▶

preparative or instrument room. There is a "morgue" for the biology laboratory. Both the physiology and biochemistry laboratories have refrigerated rooms. The fact that almost wholly the sides of the building are glass insures excellent illumination. However, in addition, the artificial illumination is of the most modern enclosed tubular fluorescent type. Gone are the days of antiquated and poorly illuminated laboratories and offices!

By careful planning these student laboratories are multifunctional: classes in different subjects do laboratory exercises in the same laboratory at different times during the week. Thus the elementary biology course shares a large laboratory with that in genetic cytology in the fall term and with embryology in the spring term. General physiology shares a laboratory with enzymology in the fall term. The microbiology laboratory is equipped with the most modern facilities for teaching the biochemistry of microorganisms – the emphasis is on this aspect rather than on the more classical and applied aspects of bacteriology and microbiology. This subject will be under the supervision primarily of the Division of Biochemistry for the present. However, the subject represents a highly significant segment of modern biology, and the emphasis placed upon it at M.I.T. may be expected to increase rather than decrease. The Department of Food Technology is also, of course, deeply interested in microbiology, particularly in its applications to problems in food technology and nutrition.

Concentration of laboratory teaching on one floor has many advantages. Not the least of these is the close association which it fosters between undergraduates with widely varying interests – from the sophomore to the senior level.

Parenthetically it may be mentioned that, beginning with the next spring term, an elective course of lectures and demonstrations, primarily of a terminal nature and carrying no prerequisites, will be offered to all M.I.T. men on Perspectives in Life Sciences. The Department rejoices that this long-cherished wish, made possible by the recent changes in freshman requirements, is about to become a reality.

Facilities for Graduate Students

Between 30 and 40 graduate students are enrolled in the Department each year. The laboratories for the advanced, elective courses taken by these students are located in areas under the supervision of particular staff members. Thesis investigations are also carried out in such specialized laboratories. This high degree of differentiation is made necessary by the complicated technical nature of the physical and chemical equipment used in most of the graduate and postdoctoral teaching and research. Although the graduate or postdoctoral students frequently must do their research in the large laboratory centers where the particular equipment is concentrated, the small

(*Continued on page 112*)

Biochemistry at M.I.T.

Outline for a Program Now Operating in a Comparatively New Field in the Life Sciences

By JOHN M. BUCHANAN

As Professor Francis O. Schmitt, Head of the Biology Department, has mentioned in his article for The Review, "Biological Science at M.I.T." (page 85), the Division of Biochemistry was established as an autonomous unit within the structure of the Department of Biology on July 1, 1953, to expand the teaching and research functions in biochemistry for the Department. The new Division occupies the entire sixth floor of the new John Thompson Dorrance Building and also has some research areas on the fourth floor where the student teaching laboratory is also located.

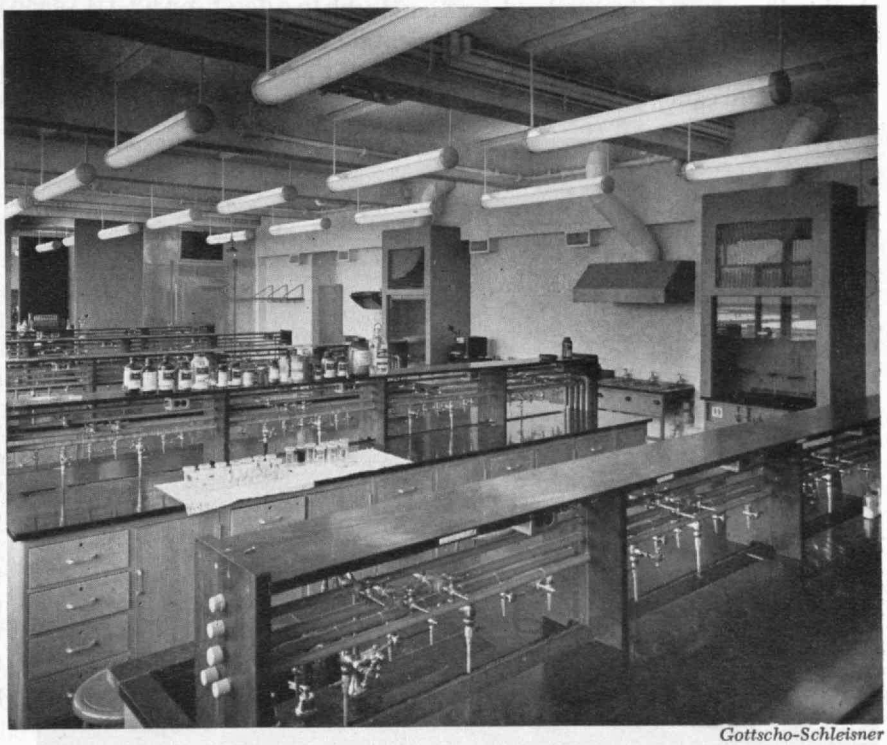
Formal Establishment of Biochemistry at M.I.T.

Although biochemistry has now been organized within a formal structure at the Institute, this does not mean that it is a new discipline of the campus. Courses in biochemistry have been offered in the Department of Biology for several years, and research instruction leading to the Ph.D. degree in biochemistry has been a regular part of the Department's function. In addition, biochemical activities in both the fields of teaching and research have been carried out in the Chemistry Department and in the Department of Food Technology. The establishment of biochemistry in a formal sense should provide a focal point for the activities in this biological science at the Institute and help to provide instruments and materiel for the furtherance of teaching and research in this field.

At this time the author welcomes the opportunity to indicate a few of our aims and ambitions for research and teaching at the Institute. At this early stage of our operations it is feasible to give only a broad outline of the program to be pursued. There are many Faculty members, not only of the Biology Department but also in other Departments of the Institute, who have an interest in biochemical training and who will certainly make contributions to the final program.

For the most part, training in biochemistry has been done in departments located both in our medical and agricultural schools. It is quite natural that this should be the case since biochemistry deals in large measure with the reactions that occur in the living human or in the living animal. Biochemistry has now grown to such magnitude in the medical world that it has long ago been established as a major course in the preclinical curriculum in almost all medical schools. In the first stages of its development, prior to its establishment on separate footing, the material of biochemistry was taught in many cases by the department of physiology, and naturally the teaching and research in this field were strongly oriented toward physiology and medicine.

Through the combined efforts of the microbiologist, the biochemist, and the organic chemist, many important developments have been achieved in the medical field, primarily in the synthesis of antibiotics, hormones, and vitamins. These advances in the above fields have been sustained with enthusiastic support by the public who have contributed generously to funds for furtherance of scientific research related to public health. The growth of biochemistry has been fostered in great measure by this financial support.



Gottscho-Schleisner

General view of laboratory for instruction in biophysics, on the seventh floor of the Dorrance Building

During this growth the biochemist, who was originally part physiologist, has ramified his interests.

Biochemist Defined

There is now the biochemist who is interested in the metabolism of foodstuffs in the body. There is also the enzymologist who is concerned with the action and properties of enzymes. Nutrition is likewise an important branch of biochemistry. The bio-organic chemist who works in the field of natural products has created his own unique field which is closely associated with biochemistry. The physical chemists are making important contributions in the description of the physical properties and structure of biological materials. Finally, there is the biochemist who is interested in the problems of cellular physiology. He is concerned primarily with the organization and function of individual cells in the body; how cells divide and multiply.

It is difficult, in fact, to define a biochemist since he is formed from such a variety of interests. It is important that an incoming student in biochemistry be able to follow any of the above interests at the Institute. Many of these interests are already present at the Institute; in the Biology and Chemistry Departments and in the Department of Food Technology. An important function of the Division of Biochemistry will be to expand these interests and to fill in areas which have not been particularly developed here. In the field of research the major projects of the Division will be primarily in the field of enzymology and intermediary metabolism. Considerable use will be made of radioactive tracers in this research.

Another particularly attractive area of development will be the attempt to apply biochemistry to problems of cellular physiology. This will be a new adventure by the Division in an area of old interests. Undoubtedly many of the new and exciting problems of biochemistry lie in this direction. The scientific atmosphere and interests in the Biology Department should augment and catalyze such activities.

Gradually, a program in all fields of biochemistry will be developed on the campus which should produce well-trained and well-rounded biochemists. A biochemist graduate student will profit by his contact with courses in physical chemistry, instrumentation, and cellular physiology in the Department of Biology, and by his courses in the chemistry of natural products given in the Chemistry Department. A thorough training of a biochemist in the fields of organic and physical chemistry is an important feature of his curriculum. Although the philosophy of a biochemist may be biology, the tool of his research is chemistry.

Revision of Courses

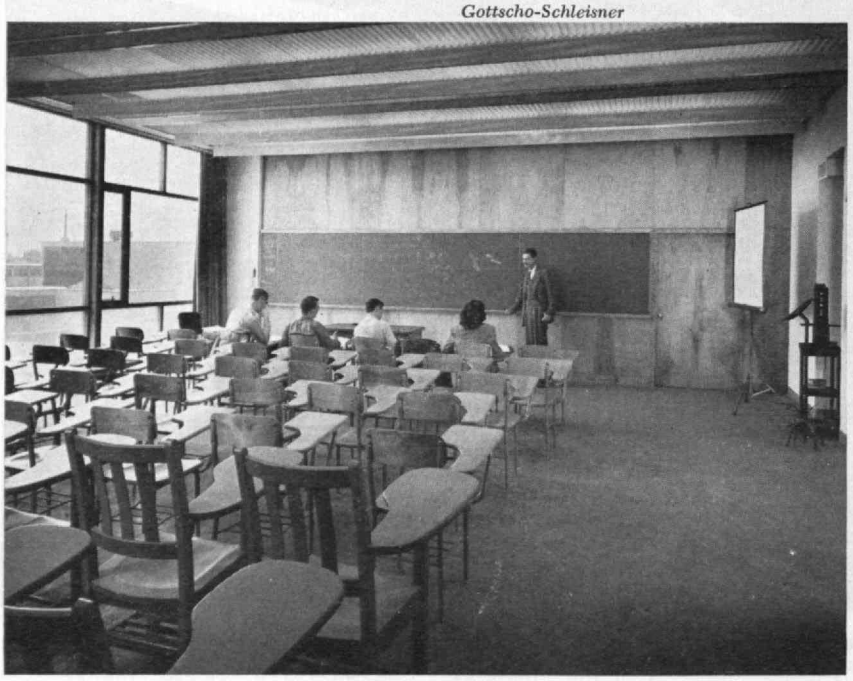
The immediate endeavor of the Division will be to revise the present basic course in biochemistry so that elementary aspects of the fields of enzymology, intermediary metabolism, and microbiology will be included and integrated. As time goes on, courses in more specialized areas of biochemistry will be added to the curriculum. A fine opportunity exists to correlate courses in biochemistry and cellular physiology.

The Division makes no distinction in its interest in both graduate and undergraduate teaching. All students will take the same elementary course. Although many of our undergraduate students will be premedics, no special attempt will be made to develop a medical biochemical course. It is felt that premedics would profit in the long run by a general course in biochemistry and that there is no need for specialization at the undergraduate level. A member of the Division will serve as one of the Department's two advisers for medical students.

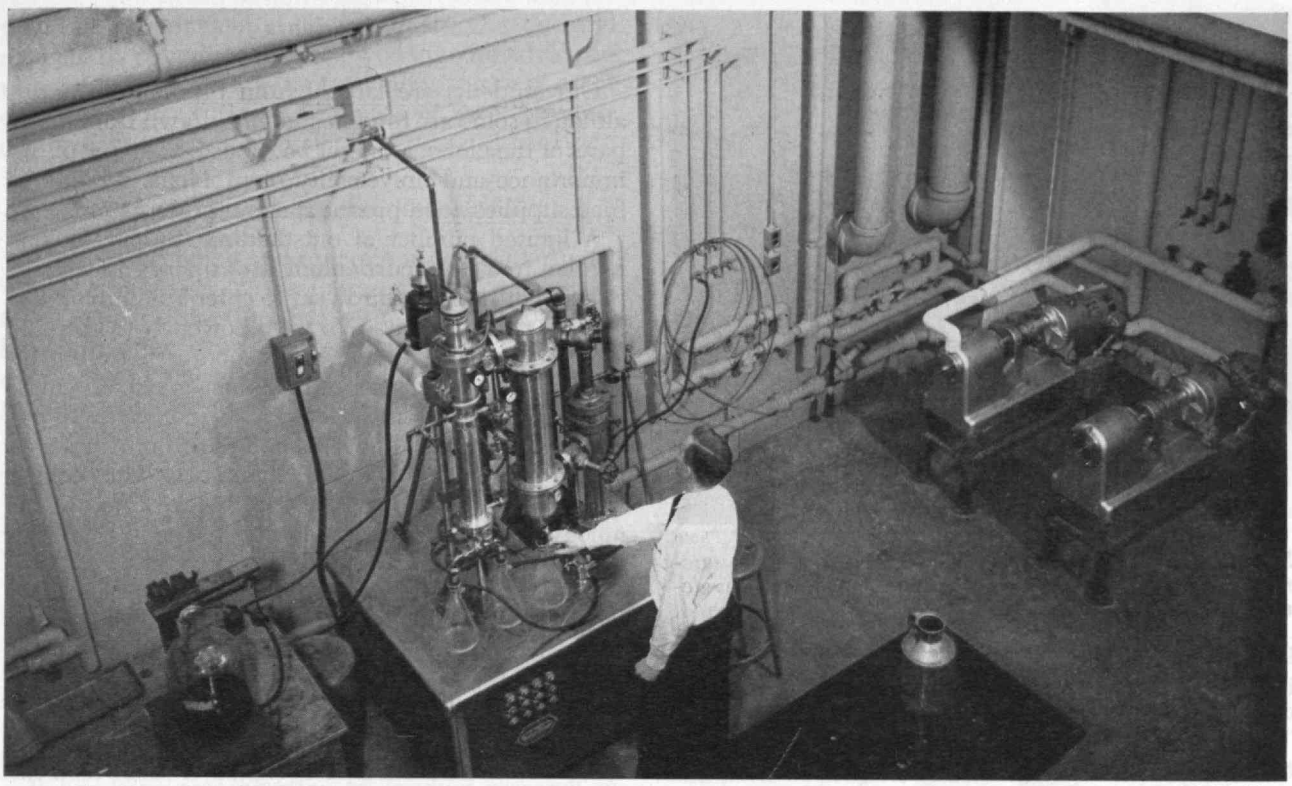
The Institute has contributed generously toward the creation of the facilities for teaching and research in biochemistry. A mass spectrometer and Geiger counters will be available for the measurement of stable and radioactive isotopes. A large "preparation room" contains an ample cold room and a smaller sub-zero room for the preparation of enzymes. Centrifuges serving all purposes have been an important part of our initial expenditures. An electrophoresis apparatus for the preparation and characterization of enzymes has also been purchased. The Division has been almost completely equipped, and began research and teaching this fall.

It is a pleasure on my part to thank at this time the Administration and Professor Schmitt for their enthusiastic and generous support of the founding of the new Division of Biochemistry. Their ambition and enthusiasm have been infectious. Finally, I feel considerable obligation toward friends in all branches of the Institute and on the architectural staff who have done much to translate efficiently our wishes and plans into a physical reality.

Gottscho-Schleisner



Seminar room on the seventh floor of the Dorrance Building



M.I.T. Photo

Pilot plant studies on the engineering problems of fruit-juice concentration are studied in the Food Technology Laboratories of the Institute.

Food Technology at M. I. T.

Since 1945, When It Was Organized as a Separate Unit, the Department of Food Technology Has Enjoyed a Considerable and Wholesome Expansion

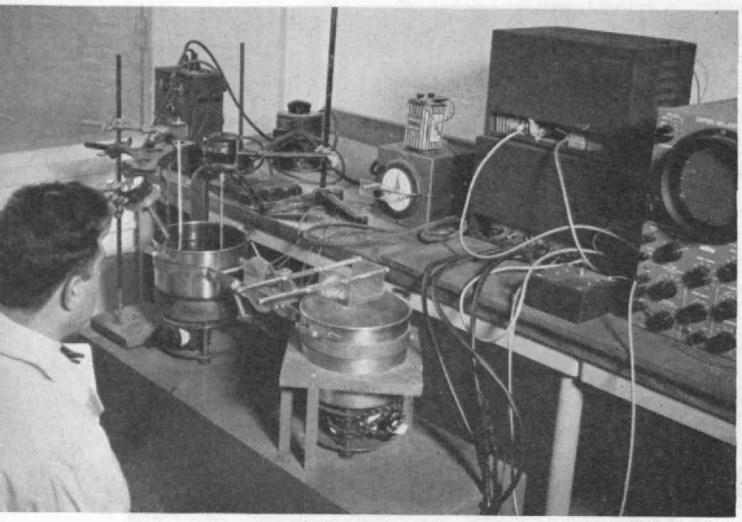
By BERNARD E. PROCTOR

THE dedication, on June 25, 1953, of the splendid John Thompson Dorrance Building, which serves as the new home for the Department of Food Technology, marks another milestone in the progress of this most recently established Department at M.I.T. Since 1945 when this Department was first organized, its field of activities has been considerably extended. Originally comprised of two professors and several research staff members, the Department has greatly enlarged its activities since its establishment, to the extent of now having eight faculty members and a personnel of over 40 individuals.

Definition and Objectives of Food Technology

As many of our readers may not be familiar with what constitutes food technology and its objectives, the following information regarding the teaching and research goals of this Department may be pertinent to Review readers.

Food technology may be defined as the application of science and engineering to the production, preparation, processing, packaging, distribution, and utilization of foods. The primary objectives of food technology are: (1) to train students to be able to take their places in the food industries as technical men capable of becoming executives and leaders of the future in this field; and (2) to prepare men for positions of leadership in food technology departments in other educational institutions. Our Department at M.I.T. aims especially to send forth into industry and into teaching graduate students skilled in the most recent methods and techniques in food technology. To this end there is needed, in addition to the formal class teaching of students, a research program concerned with fundamental research of a type related to the future potential utilization of such basic principles and facts as may be applicable in the food industries. In other words, fundamental studies are needed involving chemistry, bacteriology, nutrition, the com-



M.I.T. Photo

Modern food-processing studies require temperature measurements at intervals of microseconds. This equipment was devised in the Food Technology Laboratories for such purposes.

plex field of food flavors, and, on the practical side, packaging, some phases of engineering, and also radiation chemistry.

Our philosophy concerning the best methods of training food technologists was unique when it was initiated here at M.I.T., but numerous colleges teaching food technology are now incorporating the ideas here developed. These ideas are, in essence, to give our undergraduates a broad basic training in the underlying sciences (physics, chemistry, bacteriology, and mathematics) and thus to try to establish a sound pattern for the engineering control of food-process applications, with only slight specific investigation into commodity industries until the graduate years. This training is quite distinct from that of schools that are concerned entirely with specific commodities and interests, such as milling, dairy products, and meat.

Students

Our students are largely from the United States, although some are foreign students drawn from many parts of the globe, as might be expected in view of the importance and universality of problems relating to food supplies, food production and preservation.

A limited number of outstanding students in our regular four-year curriculum are, upon application, selected during the third year to enter a slightly modified fourth-year course, to be followed by a fifth, or graduate, year. A period of six months between the fourth and the fifth year in this course may be spent in technical positions in selected food industries, to enable each student to have some industrial experience before completing his academic work. This course leads to the degrees of S.B. and S.M. in Food Technology, awarded simultaneously at the end of the graduate year.

Recently, in response to suggestions from industry, an addition was made to the curriculum and we now have an option in biochemical engineering, which embraces fundamentals essential to both food technology and microbiology and which also places somewhat more emphasis on chemical engineering. This combination of courses is designed to train men for the fermentation industries, the rapidly growing antibiotic manufacturing industries, and similar biochemical industries, which have until recently found it necessary to train their own men.

Our graduates have provided the personnel for both large and small food enterprises. In addition, a number of our students have been chosen as members of the staffs of other universities, which have selected the type of training in food technology at the Institute as the best in this field.

In general our S.B. graduates go into production jobs in the food industry or into positions concerned

The use of radioactive calcium in nutrition studies requires the most modern electronic counting mechanisms such as are shown in this picture in the Department of Food Technology.



with the development of new products. Our doctoral men are more commonly employed in more advanced research laboratories of the food industries or of other educational institutions. A number of them have recently accepted professorships in other universities.

Aim of Teaching and Research

In all the teaching and research in the Department – and research is looked on as an important means of teaching – the aim is to supply the rapidly expanding food industries with competent men who will provide excellent staff for industry in the days to come. An extremely close liaison is maintained with industry, as it is believed that by such a community of interests a substantial bridge can be constructed between the food-manufacturing industries, the governmental and health authorities relating to foods and nutrition, the research laboratories concerned with agricultural developments, and the food-equipment manufacturers, on the one hand, and M.I.T. and its Food Technology Department, on the other hand. This bridge can be advantageously strengthened in the years ahead, to the mutual advantage of all concerned. It is obvious that such a bridge must be a two-way road on which traffic in both directions is not impeded.

It has been our intention to conduct research in areas that present problems and difficulties of such scope that few food companies could afford to conduct studies in these areas in their own separate laboratories. It has also been our intention to conduct research in areas in which the specialized background of our staff members may be particularly helpful and in areas involving problems where our exceptional facilities may offer unique advantages.

Among the research projects of special interest, in which significant progress has been made in the past decade, may be mentioned the studies on food freezing under the direction of John T. R. Nickerson, '32, Assistant Professor of Food Processing; the development of methods and techniques for the evaluation of food flavors under the direction of Ernest E. Lockhart, '34, Associate Professor of Food Chemistry; the researches on nutritional biochemistry conducted by Professor Robert S. Harris, '28, and Henry Sherman, '46, Assistant Professor of Biochemistry of Nutrition; and the research on sterilization with ionizing radiations under the direction of the author and Samuel A. Goldblith, '40, Assistant Professor of Food Technology. Mention should also be made of the fundamental research in microbiology and antibiotics conducted by Cecil G. Dunn, '30, Associate Professor of Industrial Microbiology, whose comprehensive textbook has been translated into Spanish and Japanese.

Our new quarters have, among their facilities, one of the finest animal laboratories in any educational institution. We also have a kilocurie source of radioactive cobalt-60, which has been most useful in the conduct of our research on food irradiation and the changes in chemical compounds and microorganisms accompanying such irradiation. Arrangements are currently under way for housing, in a special building, the only actual source of atomic fission by-products, and this source is to be used to continue the studies on the effect of gamma rays on foods.



The most modern electronic equipment, such as this rapid scanning spectrophotometer, are used in evaluating the effect of processing on change in food color at M.I.T.

Food research today, in common with other types of research, is rarely a one-man affair. Numerous projects and parts of projects undertaken by this Department could never have been initiated or brought to completion without the generous co-operation we have had from the members of other Departments of the Institute, including Biology, Chemical Engineering, Chemistry, Electrical Engineering, Mechanical Engineering, Physics, and some of the combined groups such as the Laboratories of Nuclear Science and Engineering, and Spectroscopy.

As two examples we may cite the co-operation of Robert J. Van de Graaff, Associate Professor of Physics, and Professor John G. Trump, '33, of the Department of Electrical Engineering. These men were responsible for the development and design of the high-voltage generators, and these facilities of the High Voltage Laboratory we in the Department of Food Technology have used in research on the cold sterilization of foods, first by x-rays and more recently by cathode rays. Without such splendid co-operation as is available in our institution, our efforts would have been seriously impeded and in some cases would have been impossible.

Sponsors

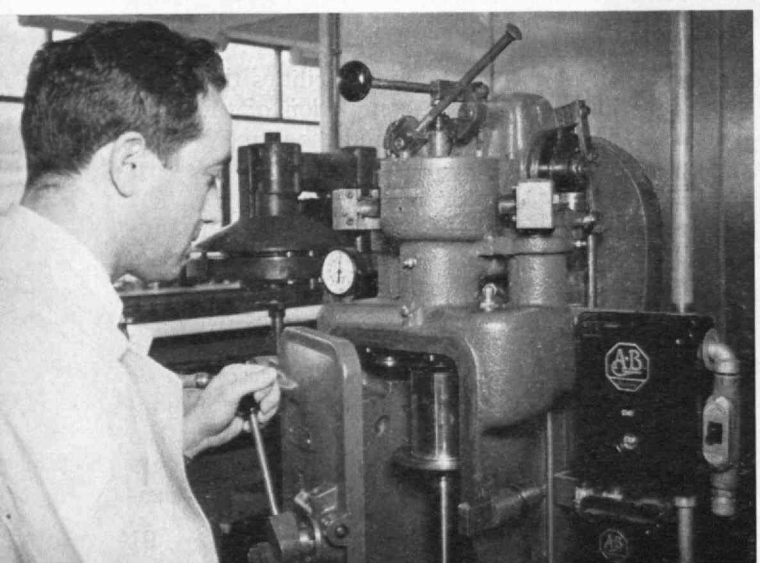
As a result of the outstanding facilities that have become available with the completion of the John Thompson Dorrance Building and the numerous donations of special equipment presented to the Department during the past year, progress on many fronts is expected. Through the generosity of several outstanding companies in the refrigerated-warehouse industry, for example, the Department now has one of the best refrigeration centers for food research available in any American university, and this center is being devoted to problems associated with food preservation.

A list of the organizations that have become sponsors of various phases of our activities presents the appearance of a Blue Book of organizations having a national interest in foods and in accessory organiza-

tions in the packaging field. During the period since its establishment, the Department has had the following among its sponsors and donors of fellowships or equipment:

American Can Company, New York City
Campbell Soup Company, Camden, N. J.
Cherry-Burrell Corporation, Chicago and Boston
Coffee Brewing Institute, Inc., New York City
Colonial Provision Company, Inc., Boston
Continental Can Company, Chicago
Dehydrating Process Company, Boston
Dewey and Almy Chemical Company, Cambridge, Mass.
Dow Chemical Company, Midland, Mich.
E. I. du Pont de Nemours and Company, Inc., Wilmington, Del.
First National Stores, Inc., Somerville, Mass.
General Foods Corporation, New York City
Gerber Products Company, Fremont, Mich.
Hartford Empire Company, Hartford, Conn.
Institute of Shortening and Edible Oils, Washington, D. C.
Kraft Foods Company, Glenview, Ill.
Lombard Governor Corporation, Ashland, Mass.
Oscar Mayer and Company, Madison, Wis.
Merchants Cold Storage Company, New York City
Merchan's Cold Storage Company, Providence, R. I.
National Dairies Research Laboratories, Oakdale, Long Island, N. Y.
The Nestle Company, Inc., White Plains, N. Y.
The Nutrition Foundation, New York City
Pillsbury Mills, Inc., Minneapolis, Minn.
The Procter and Gamble Company, Cincinnati, Ohio
The Quaker Oats Company, Chicago
Quincy Market Cold Storage and Warehouse Company, Boston
Raytheon Manufacturing Company, Waltham, Mass.
Research Corporation (Williams-Waterman Fund), New York City
Standard Brands, Inc., New York City
Sugar Research Foundation, Inc., New York City
Terminal Ice and Cold Storage Company, Portland, Ore.
United Fruit Company, New York and Boston
The Upjohn Company, Kalamazoo, Mich.
Wilson and Company, Chicago

M.I.T. Photo



Recently arrangements have been made for graduate fellowships, which have been sponsored by the following organizations: American Chicle Company, Long Island City, N. Y.; Armour and Company, Chicago; Gerber Products Company, Fremont, Mich.; Procter and Gamble Company, Cincinnati, Ohio; The Roche Anniversary Foundation, Montclair, N. J.; and William Underwood Company, Watertown, Mass.

At the present time substantial research projects are being conducted in co-operation with the Subsistence Division of the Quartermaster Corps of the United States Army, the Bureau of Supplies and Accounts of the U.S. Naval Supply Depot, the U.S. Atomic Energy Commission, the National Institutes of Health, the Bureau of Agricultural and Industrial Chemistry of the Agricultural Research Administration, U.S. Department of Agriculture, and others.

In the period of less than a decade during which our activities in food technology have been conducted, our staff have presented and published more than 150 papers in various scientific journals. A bibliography of these papers has been prepared, and copies of this bibliography are available, upon request.

In addition to these papers, a considerable number of textbooks and research volumes have been published, with various members of our Department as their authors.

Trends in Food Products

Perhaps there is no greater indication of the important place that food technology has taken in the business of this nation than the survey published in October, 1953, by *Fortune*. This survey indicates that during the past decade our population has tremendously increased its expenditures for foods and that most of this increase, above that attributed to rising prices, was due to the tremendous influx of products prepared and packaged for the convenience of the homemaker. That this trend will continue in the future and provide a most fertile field for men properly trained in food technology is well established. Food products now represent a sixty billion dollar annual market, and the curves are still trending upward. So for those who are particularly trained in the making of more convenient foods, more nutritious foods, more attractive foods, and safer foods, there appear to be plenty of challenges ahead. Many of these challenges mean new processes, and it is with such activities that our staff, graduates, and students are concerned.

Limitations of space prevent a detailed exposition of all the activities of the Department of Food Technology. However, we wish to emphasize particularly that we shall welcome the visits of Alumni with common interests and shall be happy to have the opportunity of discussing any joint fields of interests more in detail with any individuals who care to visit our new home. We shall also welcome the opportunity of discussing our activities with able young men who agree with us that food technology has real promise as a professional field in the future.

Facilities on a pilot model scale such as this vacuum can-sealing equipment are used for the most modern canning operations in the Food Technology Laboratories at M.I.T.

THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

To the Webster Chair

PROFESSOR ARNOLD TUSTIN, distinguished British engineer and Head of the Department of Electrical Engineering at the University of Birmingham, England, has been invited to occupy the Webster Chair of Electrical Engineering as a visiting professor at the Institute for the academic year 1953-1954. The Webster Chair of Electrical Engineering was established in 1952 by the Edwin Sibley Webster Foundation, in memory of the late Mr. Webster (Class of 1888), one of the Institute's most distinguished Alumni.

Professor Tustin will participate in the development of teaching and research in the applications and uses of electric power. He was graduated from the University of Durham in 1920. Professor Tustin had had extensive and varied experience in the electrical manufacturing industry before first entering the academic field at Birmingham seven years ago. He was previously assistant chief engineer at the Sheffield Works of the Metropolitan-Vickers Electrical Company.

Professor Tustin has mainly been associated with developments in the design of electrical machines, particularly of special direct-current machines. He specialized in electric traction and played an active part in the development that consolidated the use of 1,500- and 3,000-volt direct current as standard systems that produced the modern lightweight trolley-bus motor.

During World War II, he was involved in the development of the Metadyne, a method of control, for such applications as the automatic laying of antiaircraft guns, and in the development of the gyroscopic stabilizer for guns in tanks.

He hopes during his stay at M.I.T. to develop further his analysis of the combination of technical and general education that is called for by the social needs of the future.

Associate Head, Lincoln Laboratory

GEORGE E. VALLEY, JR., '35, Associate Professor of Physics at the Institute, has been appointed associate director of the Lincoln Laboratory, an electronic research project operated by M.I.T. for the Department of Defense.

Born in New York City in 1913, Dr. Valley received the degrees of bachelor of science at M.I.T. in 1935 and doctor of philosophy at the University of Rochester in 1939. He then served at Harvard University as a research assistant (1939-1940) and as a National Research Fellow (1940-1941). In 1941, Dr. Valley joined the staff of M.I.T.'s Radiation Laboratory and later served as technical editor of the Laboratory's Office of Publications. Appointed assistant professor of physics at M.I.T. in 1945 and associate professor in 1949, Dr. Valley has specialized in nuclear physics and cosmic radiation.

Centenarian

WILLIAM PRESTON ATWOOD, 57 Kingswood Road, Auburndale 66, Mass., oldest living Alumnus of the Institute, celebrated his 100th birthday at a reception at his home on Sunday afternoon, October 25. Mr. Atwood, a member of the Class of 1876, reached the 100-year mark on Tuesday, October 27, 1953. Approximately 60 members of the Atwood family, friends, and neighbors called to pay respects to this man whose life span encompasses the entire history of M.I.T.

An important part of the Sunday afternoon reception was the presentation to Mr. Atwood of congratulatory letters from Karl T. Compton, Chairman of the M.I.T. Corporation, James R. Killian, Jr., '26, President of M.I.T., and Horatio L. Bond, '23, President of the M.I.T. Alumni Association. These letters were read to Mr. Atwood by his son, William F. Atwood, '21, also of Auburndale.

Born in Orrington, Maine, on October 27, 1853, William Preston Atwood spent his entire professional life as chemist in the textile industry. He entered M.I.T. from Lowell in 1872, and was graduated from Course V (Chemistry) with the Class of 1876. Following his graduation from the Institute, Mr. Atwood became chemist for the Hamilton Print Works in Lowell, which firm changed its name to the Hamilton Manufacturing Company in 1905. In 1909 Mr. Atwood was chemist for the Massachusetts Cotton Mills of Lowell, becoming head chemist for that firm several years later. He retired in 1928 and lived in Chelmsford until a few years ago when he moved to Auburndale where his son and daughter reside.

Mr. Atwood has been in good health throughout his long life, and retains interest in current events. He enjoys radio and television programs, and was watching a television program when guests arrived to attend his reception.

Extending official congratulations to William P. Atwood, '76, at his 100th birthday are (at left) Horatio L. Bond, '23, and (at right) William F. Atwood, '21, a son.

M.I.T. Photo

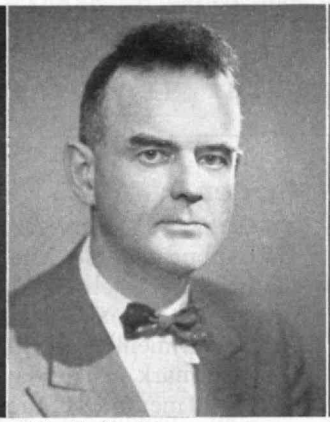


New Life Members of M.I.T. Corporation



Fabian Bachrach

Thomas D'A. Brophy, '16



Fabian Bachrach

William A. Coolidge



Fabian Bachrach

Lloyd D. Brace



Bell Telephone Laboratories, Inc.

Mervin J. Kelly

Corporation News

ELECTION of four life members to the Institute's Corporation was announced last August by James R. Killian, Jr., '26, President of M.I.T. The new life members are: Lloyd D. Brace, President and Director of the First National Bank of Boston; Thomas D'A. Brophy, '16, Chairman of the Board of Kenyon and Eckhart, New York advertising agency; William A. Coolidge, President of New Enterprises, Inc. (Boston); and Mervin J. Kelly, President of the Bell Telephone Laboratories of New York .

Mr. Brace has been with the First National Bank of Boston since 1925; he is also president and director of the First of Boston International Corporation; trustee of the Boston Five Cents Savings Bank; and director of the National Life Insurance Company, the Gillette Safety Razor Company, and the U.S. Smelting, Refining and Mining Company.

Born in Lincoln, Neb., in 1903, Mr. Brace was graduated from Dartmouth College in 1925 and now makes his home in Needham, Mass. He is chairman of the Board of Boys and Girls Camps, Inc., and trustee and member of the Finance Committee of the Massachusetts General Hospital and for Phillips Academy at Andover, Mass.

Mr. Brophy has been chairman of the Board of Kenyon and Eckhart, Inc., of New York and Kenyon and Eckhart, Ltd., of Montreal since 1949. From 1937 to 1949 he was president of the firm.

Born in Butte, Mont., in 1893, he received the degree of bachelor of arts from Gonzaga College (Spokane, Wash.) in 1912, and the S.B. degree from the Institute in 1916.

Mr. Brophy has served as vice-president and director of the American Association of Advertising Agencies and as president of the American Heritage Foundation. He is a resident of Scarsdale, N.Y.

Mr. Coolidge, who became president of the New Enterprises, Inc., in 1946, is also chairman of the Board of the National Research Corporation; president and director of Orange Concentrates Associates, Inc.; and director of the Nopco Chemical Company and the Infra Roast Corporation.

Born in Boston, he studied at St. Mark's School and received the degree of bachelor of arts *cum laude* from Harvard in 1924. He also holds the degree of master of arts from Balliol College, Oxford. Mr. Coolidge, a resident of Topsfield, is a trustee of St. Mark's School and the Boston Lying-in Hospital.

Dr. Kelly has been associated with the Bell Telephone Laboratories since 1925. He served as executive vice-president from 1944 until 1950 when he became president.

Born in Princeton, Mo., in 1894, he received the degree of bachelor of science from the Missouri School of Mines and Metallurgy in 1914, the M.S. degree from the University of Kentucky in 1915, and the Ph.D. degree from the University of Chicago in 1918. In October, Dr. Kelly was named to receive the Industrial Research Institute Medal for 1954. He is a resident of Short Hills, N. J.

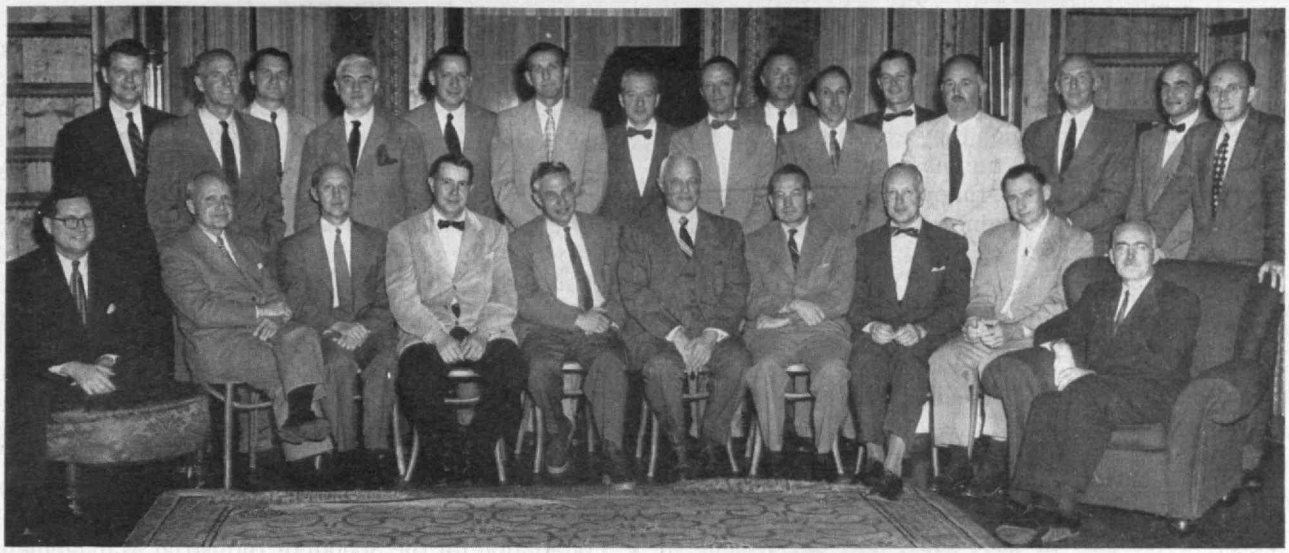
T.C.A. General Secretary

IN September, Robert J. Holden, prominent Unitarian minister and leader in civic affairs in New Bedford, became general secretary for the Technology Christian Association at M.I.T. As general secretary, Mr. Holden will have administrative responsibility for the T.C.A.'s diversified program of service to the M.I.T. student community. He will work very closely with William Speer, Associate Dean of Students, in planning for the use of M.I.T.'s new auditorium and chapel. Mr. Holden had the gratifying experience of working in Cleveland as assistant to the late Everett M. Baker, former Dean of Students at M.I.T.

Mr. Holden will succeed Wallace M. Ross, T.C.A. general secretary since 1934, whose retirement was announced in the July, 1953, issue of The Review. Mr. Ross will continue a part-time association with the Technology Christian Association.

Mr. Holden was born in Natick, Mass., and attended the Natick public schools. He was graduated from Albion College in Albion, Mich., in 1939, and from the Harvard Divinity School in 1942. He has been minister of the First Congregational Society (Unitarian) in New Bedford since 1946, when he returned from service as a chaplain with the U.S. Navy.

Mr. Holden has been active and held several assignments in the American Unitarian Association. He has been chairman of the Teacher Training Institute for the New England region and of the Leadership Training Committee of the Division of Education.



Zaharis

For the second year, administrative heads of the California Institute of Technology and of the Massachusetts Institute of Technology discussed problems of mutual interest in the educational field in a week-end conference. Last year half a score of Technology administrative heads were guests of the California Institute of Technology. This year, 10 C.I.T. executives came east to attend a conference at Castle Hill near Ipswich, Mass. for the week end of October 10-13, followed by visits to M.I.T. Photographed at the gathering at Castle Hill (front row, left to right) are: Edwin R. Gilliland, '33, Earnest C. Watson, C.I.T., William N. Lacey, C.I.T., James R. Killian, Jr., '26, Lee A. DuBridge, C.I.T., Karl T. Compton, Robert F. Bacher, C.I.T., Julius A. Stratton, '23, Robert P. Sharp, C.I.T., and George R. Harrison; (rear row, left to right) Malcolm G. Kispert, 2–44, George W. Beadle, C.I.T., Joseph J. Snyder, 2–44, E. P. Brooks, '17, Dr. Dana L. Farnsworth, G. W. Green, C.I.T., Harold L. Hazen, '24, H. D. Smith, C.I.T., Pietro Belluschi, J. R. Weir, C.I.T., E. Francis Bowditch, H. P. Robertson, C.I.T., B. Alden Thresher, '20, Patrick M. Hurley, '40 and Harold E. Edgerton, '27.

Appointments and Promotions

AMONG Faculty advancements and appointments this fall was the appointment of John F. Reintjes, Associate Professor of Electrical Communications, to the post of director of the Servomechanisms Laboratory of the Department of Electrical Engineering. Professor Reintjes succeeds William M. Pease, '42, Associate Professor of Electrical Engineering, who resigned to begin a career in industry.

Two men have been promoted to the rank of associate professor and seven to the rank of assistant professor, with new appointments including three visiting professors, four associate professors, and nine assistant professors as named below:

Major Edgar W. Nichols of the Department of Air Science and Tactics, and Major Charley W. Haynes of the Department of Military Science were promoted to associate professor.

Promoted to the rank of assistant professor are: William J. LeMessurier and Robert V. Whitman, '49, both in the Department of Civil and Sanitary Engineering; Henry C. Bourne, Jr., 2-44, and Leonard A. Gould, '48, both in the Department of Electrical Engineering; Ralph W. Gretter, '50, Department of Mechanical Engineering; Douglas W. Fuerstenau, Department of Metallurgy; and Sidney D. Drell, Department of Physics.

Visiting professors newly appointed include: Don M. Yost, Arthur D. Little Visiting Professor in Chemistry; Daniel Lerner, Department of Economics and Social Science; and J. G. Yates, Department of Electrical Engineering.

Four new associate professors are: William A. W. Krebs, Jr., and Joseph A. Pechman, School of Industrial Management; Major William J. Keating and Major William Mattis, Department of Military Science.

Nine appointments to assistant professorships include: Norman Beecher, 2-44, School of Chemical Engineering Practice; Ross E. McKinney, '49, Department of Civil and Sanitary Engineering; Peter Elias, 2-44, and David A. Huffman, Department of Electrical Engineering; Lacy B. Smith, Department of Humanities; Thomson M. Whitin, School of Industrial Management; Robert W. Mann, '50, Department of Mechanical Engineering; Major Douthit L. Furches, Department of Military Science; and Elmer E. Allmendinger, Department of Naval Architecture and Marine Engineering.

Registration 1953-1954

A TOTAL of 5,129 students registered for the opening of the current academic year at the Institute, according to figures released on October 20 by Joseph C. MacKinnon, '13, M.I.T. Registrar. This total represents an increase of 55 students over last year's registration. However, these are tentative figures subject to correction as late registrations are tallied.

This year's Freshman Class numbers 843, compared with 937 in the entering class one year ago. Among the undergraduate groups only this year's Sophomore Class, numbering 921, is larger than the corresponding group of the 1952-1953 academic year. The tentative registration figure of 1,924 graduate students marks a new high in the history of M.I.T.

The Department of Electrical Engineering continues to enroll the largest number of M.I.T. students – this year 628 undergraduate and 375 graduate students for a total of 1,003. The Departments of Me-

chanical Engineering and of Chemical Engineering follow with 602 and 553 respectively.

Though the decision is not binding, M.I.T. freshmen are asked when they first register at M.I.T. to indicate the field in which they expect to study. Electrical Engineering was the most popular selection of this year's entering class, followed by Chemical Engineering, Mechanical Engineering, and Physics in that order.

Financial Review

JOSEPH J. SNYDER, 2-44, M.I.T. Treasurer, reported to the Corporation at its meeting on October 5 that in the fiscal year 1952-1953 every major source of revenue of the Institute increased over the level of the preceding year. The total volume of operations was $43,036,000 as compared with $32,518,000 in 1951-1952, $23,469,000 in 1950-1951, and $21,470,000 in 1949-1950. The continued growth in the scale of operations in the past two years has been due very largely to the expansion in the contract research of the Division of Defense Laboratories.

The combined volume of academic operations and auxiliary activities was $9,921,000 for the year, showing an increase from $9,029,000 in 1951-1952. After declining for three successive years, tuition income increased to $3,751,000 from $3,628,000. To meet current expenses, gifts and other receipts were used in the amount of $2,985,000. This source of income was drawn on more heavily than in recent years with gifts and receipts used in 1951–1952 at $2,433,000 and in 1950–1951 at $2,183,000.

On June 30, 1953, the invested and other funds of the Institute were $63,833,000 at book value and on June 30, 1952, the funds were $60,632,000. The net increase in the funds during the year of $3,201,000 is comparable with the increases of $3,814,000 in 1951-1952 and $4,135,000 in 1950-1951. For the year the net increase consisted of increases of $1,249,000 in general purpose endowment, $1,154,000 in endowment for designated purposes and $798,000 in other classes of funds. The Faculty Salary Fund was increased by $1,014,000 to $4,115,000 and this was the principal change in endowment for general purposes. Funds for research of $566,000, for student aid of $329,000, and for professorships of $237,000 were added to endowment for designated purposes during the year. A substantial part of the funds of the Institute are temporarily invested or included with current assets that may be withdrawn and these funds were 27 per cent of all funds on June 30, 1953. On the same date, 73 per cent of the funds were endowment funds or funds functioning as endowment.

The book value of the plant of the Institute was $33,065,000 on June 30, 1953, and $31,365,000 on June 30, 1952. Construction during the year included the completion of the John Thompson Dorrance Building and the extension and renovation of the steam supply lines to the west campus as the main additions to educational plant assets.

The gifts, grants, and bequests received during the year were $5,982,000, and in the year before $6,953,000 was received by the Institute. Included in the gifts for the year was $1,780,000 in payments toward subscriptions to the Development Program pledged from 1948 to 1951. The bequest of Katie M. A. Grimmons, mother of John A. Grimmons, '21, for scholarships, the bequest of Gertrude Newman, wife of A. Parker Newman, '92, for student aid, and further payments for the Edwin Sibley Webster ('88) Professorship by the Webster Foundation made up the greater part of the endowment receipts for designated purposes of $538,000. The second distribution from the Estate of Mrs. H. Sylvia A. H. G. Wilks of $818,000 and a third payment from the Ford Motor Company Fund were included with invested gifts for general purposes of $1,404,000. The Alumni Fund which increased to $189,000 from $122,000 last year and a grant of $500,000 from the Rockefeller Foundation for research in biology were gifts received and classified with invested funds for designated purposes of $1,109,000. Contributions received from the Alfred P. Sloan ('95) Foundation for the School of Industrial Management were $745,000 and for other purposes $132,000. Gifts for unrestricted purposes of $1,122,000 were added to general endowment, and gifts of $540,000 for designated purposes with principal available for immediate expenditure were added to endowment for designated purposes during the year.

The investments of the Institute had a book value of $59,940,000 and a market value of $73,080,000 on June 30, 1953. The distribution of the general investments at market values in bonds, common stocks and real estate changed very slightly during the year. The investment in bonds increased to 29.5 per cent from 27 per cent, with a reduction in government securities and an increase in other bonds. Common stocks decreased to 45.1 per cent from 46.9 per cent and real estate increased to 17.0 per cent from 15.6 per cent of the general investments.

Forty-eight per cent of the additions to plant and 64 per cent of the increase in endowment since 1948 has been made possible through the use of unrestricted resources. By minimizing the use of unrestricted funds in meeting current operating expenses, gifts for endowment have been supplemented and further progress made in securing the endowment capital required to stabilize operations of the Institute.

Million Dollar Defense

HORATIO L. BOND, '23, President of the Alumni Association, opened the 298th meeting of the Alumni Council at the M.I.T. Faculty Club on Monday, October 26, 1953. The 159 members and guests present made this first meeting of the season the largest Alumni Council on record. Principal speakers at the meeting were: James R. Killian, Jr., '26, President of the Institute; and Horace S. Ford, Acting Director, Division of Defense Laboratories.

Charles E. Fuller, '92, Professor of Theoretical and Applied Mechanics, Emeritus, presented the report of the Committee on Resolutions for the late Fred E. Bedlow, '85. President Bond called upon the members present to accept the resolutions by silent rising vote.

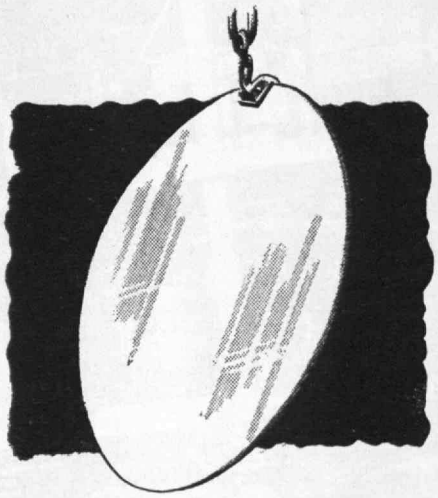
Last June's successful Alumni Day was conducted with an operating overhead to the Association of $3,541, compared with the previous year's overhead

(*Continued on page 100*)

To our Colleagues in American Business . . .

Revere, like other companies, prefers to avoid rush orders, because they tend to upset orderly scheduling of production and shipment. However, we are not bound by system, and will do everything we can to help when a customer faces a genuine emergency. Sometimes, of course, in spite of the best will in the world, we encounter conditions beyond our control. A metal shortage is one example. But when there is an overwhelming need for speed sometimes we can meet it.

Let us cite a recent case. An important customer on the West Coast had spoiled two circular tube sheets while drilling them. This message was relayed by telephone to our New Bedford mill where we produce these sheets. How soon could we replace them? They were for an important government project. So urgent was the need that the customer offered to charter a plane to fly them to California as soon as they were ready.



A quick check showed that we could make duplicate sheets much more quickly than usual. The specified alloy was in stock, partially processed, so that casting time was eliminated, as well as some of the rolling. It was rolled down to the required gauge, 1⅛ inch thick, leveled, and cut into two circles, each 98 inches in diameter.

Meanwhile, the Traffic Department worked on the rather complicated problem of determining the fastest, most direct, yet least expensive way to get the circles to the Coast. Because of the weight and the time already saved, shipping by plane entailed a cost that didn't seem justified. Traffic reported that the best solution was to ship by "direct car," which guaranteed no extra handling or trans-shipping en route. This was agreed to by the customer, and four days after he called us, the circles were thus shipped. They arrived eleven days later, in time to meet the deadline.

Was the extra effort required to rush through 5,000 pounds of tube sheets justified? We are sure it was. Two days after the circles arrived we received a letter from the customer, in which he said: "The promptness with which your company undertook the problem of supplying the two sheets to replace those we had spoiled has been appreciated by all of us. . . . It is most heartening to work with persons who have a real sense of responsibility and concern over their customers' emergency requirements. Your company's performance in this instance left nothing to be desired and we want you to know that it meant a great deal to all of us."

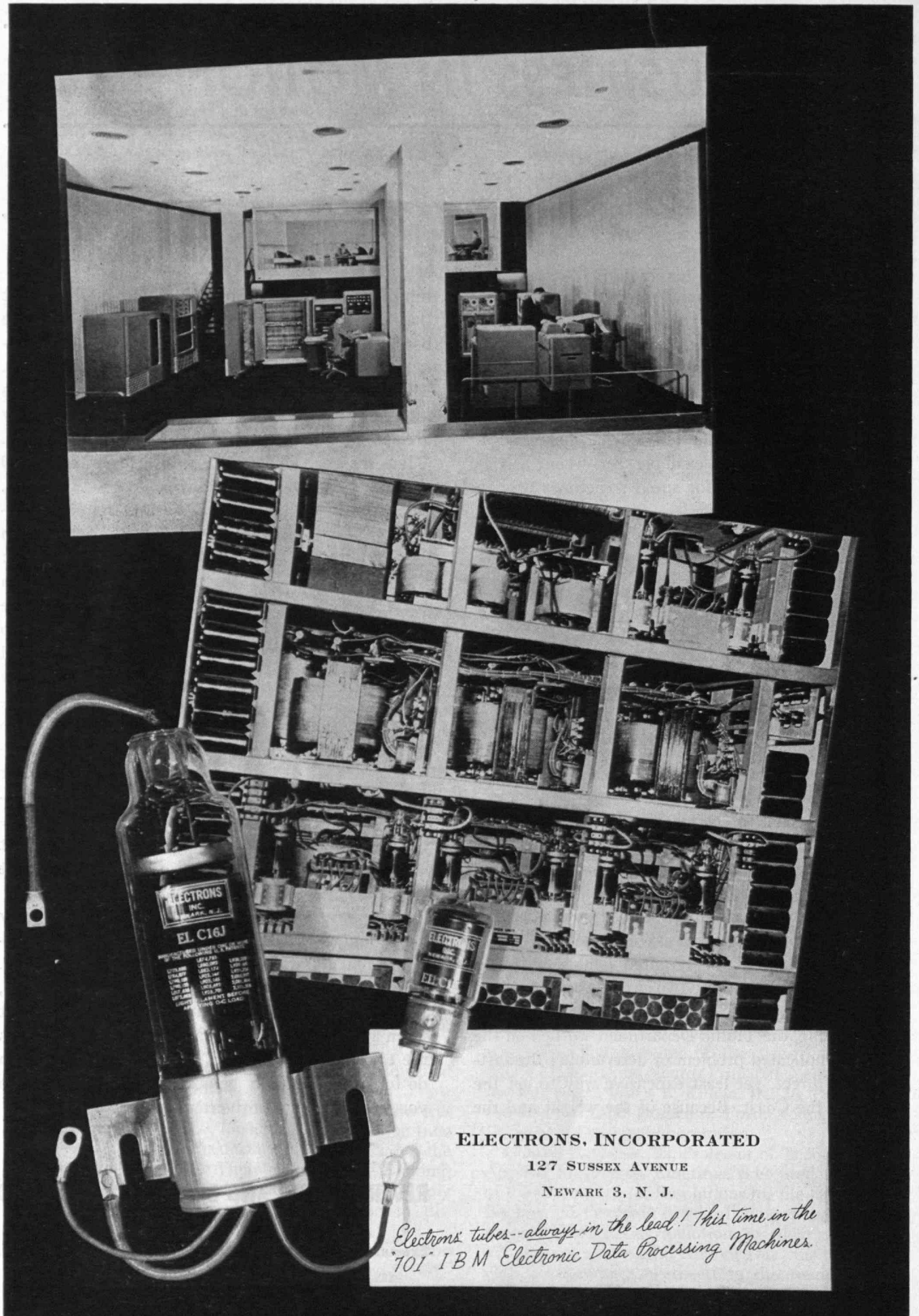
As we have remarked, we do not relish rushes any more than anybody else, but when there is a situation of real gravity, we will do our best to cope with it. Other suppliers in all industries, we have observed, follow much the same policy, so we suggest that when a genuine emergency arises, tell your suppliers the exact nature of it and ask them what they can do for you. They may be able to find a way to help you, as Revere did in the case just cited.

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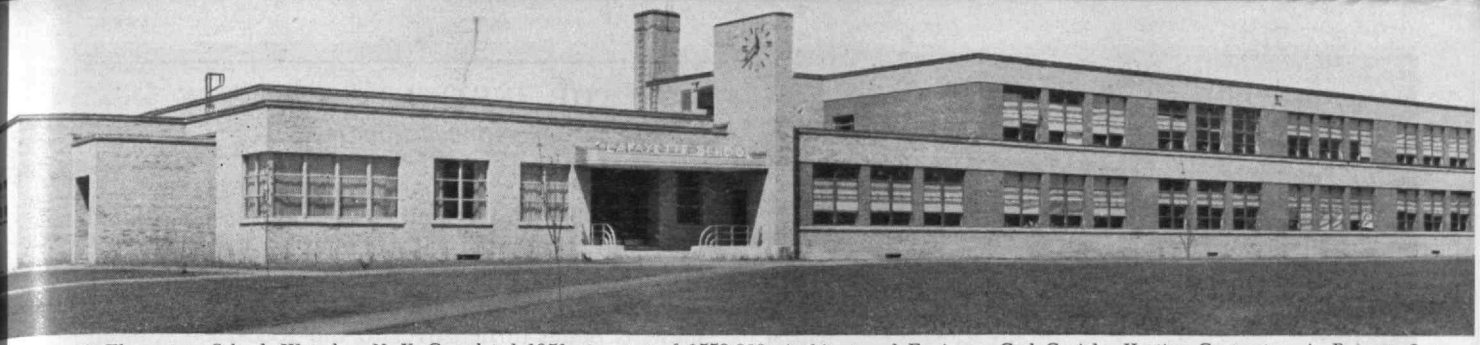


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Electrons' tubes--always in the lead! This time in the "701" IBM Electronic Data Processing Machines.



Lafayette Elementary School, Waterloo, N. Y. Completed 1951 at a cost of $550,000. Architect and Engineer: Carl C. Ade. Heating Contractor: A. Burgart, Inc.

COLD MEETS ITS WATERLOO

In Waterloo, New York

New York Community Modernizes its School System With New Schools and Tru-Perimeter Heating

When Waterloo, N. Y., decided its educational shoe was pinching they called on Carl C. Ade, prominent Rochester architect and engineer, to help remedy the situation.

Result – the handsome new Lafayette Elementary School illustrated here and the even larger Skoi-Yase (Indian for 'bubbling water') Elementary School now under construction. With these new schools, and its existing buildings, Waterloo has solved its educational space problems for many years to come.

For efficient, modern heating, both these new schools use Webster Walvector, as do many of the schools designed by Carl C. Ade's office.

Here is Tru-Perimeter Heating. The cold perimeter walls of the buildings are heated gently and evenly. There are no cold spots, no hot spots, no drafts. With Webster Walvector, the heating element and piping are concealed in attractive metal enclosures.

Webster Walvector in perimeter heating simplifies piping, uses fewer risers. Heating up is quick, effectively controlled. Buildings can be heated just before occupancy and the heat reduced immediately after the need is gone.

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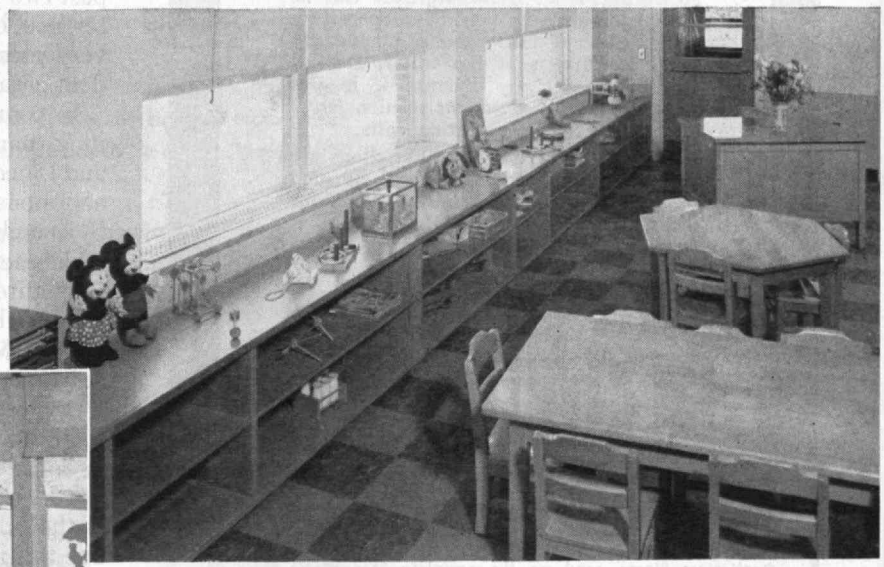
Webster WALVECTOR

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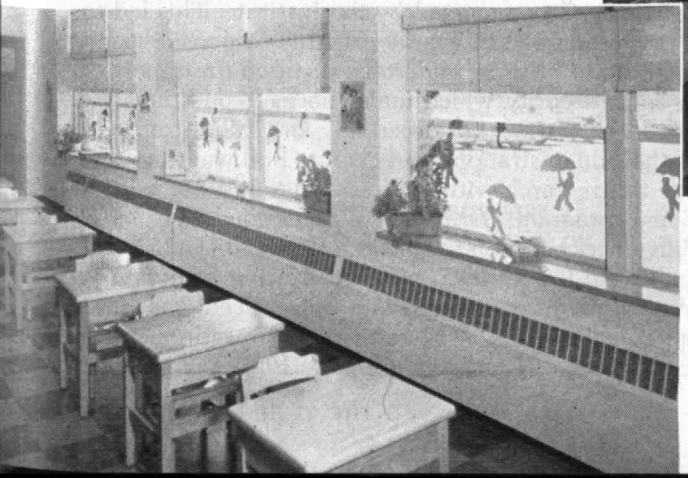
For Steam or Hot Water Heating

Recent New York State Schools by Carl C. Ade that use Webster Walvector

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Britton Road School, Greece;
Irondequoit Jr.-Sr. High School
District #3, Irondequoit;
Pittsford Jr.-Sr. High School, Pittsford;
Griffith Institute, Springville;
Bryant School, Hornell;
Lafayette School, Waterloo;
Skoi-Yase School and Bus Garage, Waterloo;
Webster Central School, Webster;
West Webster Elementary School, West Webster

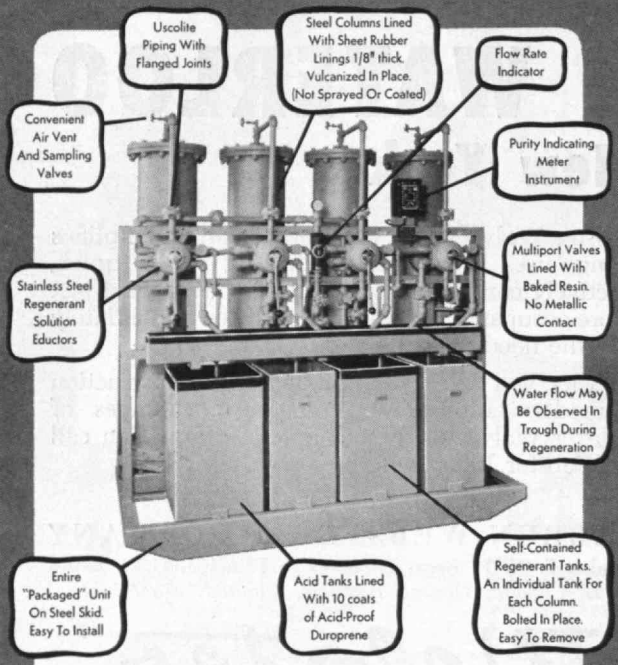


Above: Kindergarten of the Lafayette School. Here concealed Webster System Radiators deliver heat through top outlet grilles shown in window sills. Air enters below toy shelving.



Left: Webster Walvector under windows in Lafayette School classroom. Air enters below Walvector enclosure, is gently warmed by heating element and passes out through the attractive grilles. Wall-to-wall warmth, no cold spots.

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City State.....

(*Continued from page 96*)

cost of $3,826. The Alumni Association closed its fiscal year on June 30, 1953, with an unexpended balance of $307. This sum, together with the $9,360 profit to the Association from last year's Volume LV of The Review, is being turned over to the 1953-1954 Alumni Fund.

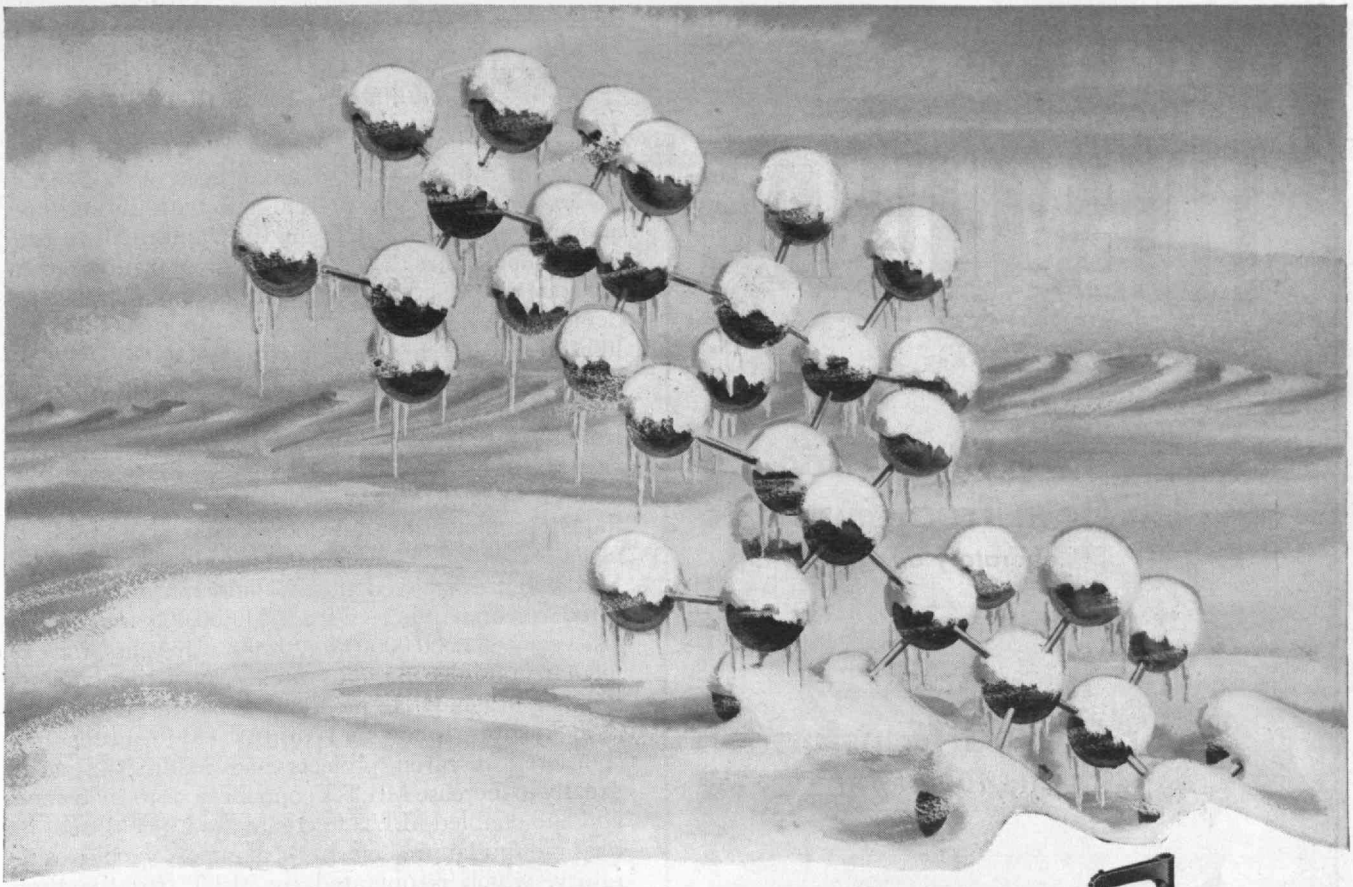
Donald P. Severance, '38, Secretary, announced that a manual for class officers is about to be distributed to all elected class officers, Alumni Fund class agents, and reunion chairmen. Anyone wishing a copy of the manual may obtain one from Mr. Severance.

Edwin D. Ryer, '20, last year's President of the Alumni Association, was at this time presented a gavel by President Bond, as a souvenir to remind him of the many successful M.I.T. alumni meetings over which he had presided in 1952-1953 — a reminder of a very successful year as president, much appreciated by those who worked with him and all others who enjoyed the benefit of his presidency.

Following an introduction of the new members of the Council, Dr. Killian was introduced as the first speaker. President Killian opened his remarks by referring to this fall's student registration which is slightly larger than last year's; spoke of the arrangement by which last March members of M.I.T.'s Academic Council consulted with their counterparts on the campus at California Institute of Technology and this year the similar group has just completed a five-day visit from C.I.T. with members of the M.I.T. Faculty and Administration here in Cambridge; and mentioned the "Andover Conferences" which have been bringing together Faculty members and administrative officers for uninterrupted week ends of free exchange of ideas away from the Institute during the past two years, citing particularly the "Andover Conference" of the week end of October 24 when a similar very successful meeting included leaders of the student organizations.

In connection with the principal topic of the evening, namely the Division of Defense Laboratories and Lincoln Laboratory, President Killian stressed the enormous load of work for the government being done by members of the Faculty and Administration for which neither they nor M.I.T. receives compensation — a figure informally set at $1,000,000 a year. He gave a rough breakdown of the $43,000,000 total in 1952-1953 of M.I.T.'s academic budget and budgets of research projects managed by the Institute. This led to the question of M.I.T.'s inescapable responsibility in this time of crisis to undertake research in support of national security which under normal conditions we would choose not to undertake. Dr. Killian referred to the Administration's endeavor to find ways to manage this research without detracting from our educational program. Dr. Killian mentioned the basic differences between the projects under the Division of Industrial Coöperation and the Lincoln Laboratory. With this, President Killian introduced the next speaker, Mr. Ford, who returned from retirement to

(*Continued on page 102*)



molecules FROZEN in their tracks

...USING TEMPERATURES NEAR ABSOLUTE ZERO

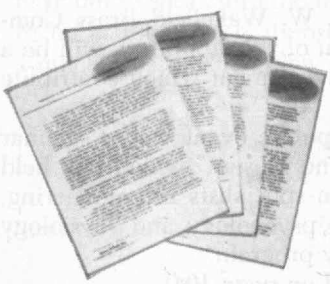
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Elton E. Staples, '26, Vice President

(*Continued from page 100*)

accept the responsibility of acting head of the D.D.L.

Mr. Ford opened his presentation with the startling announcement that M.I.T. and the California Institute of Technology are the only educational institutions in the country with more persons on the payroll than students enrolled, a statement easy to understand in the light of a $9,000,000 academic budget and a $34,000,000 sponsored research budget last year for M.I.T.

He traced the history of M.I.T.'s sponsored research from the first Research Laboratory of Applied Chemistry started by Arthur D. Little, '85, Professors William H. Walker, and Warren K. Lewis, '05, through the Division of Industrial Coöperation whose budgets never exceeded $100,000 annually until 1940. Mr. Ford's figures showed the rise and fall of the sponsored research budgets from $1,300,000 in 1941, to last year's $34,000,000 through the war years, the immediate postwar period, and the present period of military urgency. He mentioned that the willingness of the Institute following World War II to accept large sponsored research projects had made it possible greatly to increase M.I.T.'s contributions to the nation, and had enabled M.I.T. to create the Lincoln Laboratory and similar projects. In speaking of Lincoln Laboratory, which is operated by M.I.T. for the three branches of the military service and which is devoted to the technical aspects of air defense, he recommended the reading of "For a Continental Defense" by President Killian and Professor Albert G. Hill, Director of Lincoln Laboratory, which appears in the November, 1953, issue of the *Atlantic Monthly*. Mr. Ford told of the inauguration of the D.D.L. for the purpose of segregating such classified military research from the educational activities of the Institute, to afford specialized fiscal management of large off-campus sponsored research, and particularly to provide for Lincoln Laboratory.

Mr. Ford described the function of this Division with respect to personnel, property, security, and fiscal relations – and took this opportunity to introduce Paul V. Cusick, Associate Director, and Henry W. Fitzpatrick, Assistant Director.

Laboratory of Lighting Design

THE establishment of a Laboratory of Lighting Design in the School of Architecture and Planning was announced in September by Professor Lawrence B. Anderson, '30, Head of the M.I.T. Department of Architecture. The laboratory was inaugurated by an initial grant from the F. W. Wakefield Brass Company. The broad program of the laboratory will be a study of all factors of environment which contribute to the process of seeing.

The laboratory's first public event was a seminar on "Vision, Brightness, and Design" which was held on September 23. Fifteen specialists in engineering, illumination, architecture, psychology, and physiology participated in a two-day program.

(*Continued on page 104*)



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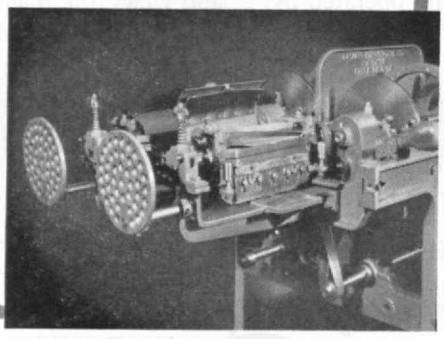
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(*Continued from page 102*)

Mechanical Engineering Standards

THE Visiting Committee on the Department of Mechanical Engineering* met for an all-day session on November 6, 1952, with: James R. Killian, Jr., '26, President; Edward L. Cochrane, '20, Dean of the School of Engineering; Professor C. Richard Soderberg, '20, Head of the Department; and various members of the Department. Minutes of the meeting, which have been summarized below, were made available for publication in The Review on August 6, 1953.

Interest centered on the Graduate School of the Department, and three of the major problems of the School were discussed: (1) the participation of the staff members in graduate education; (2) questions which have arisen on the new degree of Mechanical Engineer; and (3) the large influx of foreign students.

Professor Jacob P. Den Hartog pointed out that at present graduate students participate in the Humanities voluntarily but students admitted from other institutions are required to make up Humanities deficiencies if their undergraduate education in that respect is less than that now specified by M.I.T. Following a discussion on whether a minor program should be wholly or partially devoted to Humanities, Andrey A. Potter, '03, suggested that one of the minor subjects should be compulsory in the Humanities field, and the Committee as a whole concurred.

Because some institutions in the United States have reserved the title of Mechanical Engineer for a semi-honorary degree, there is confusion attached to this name. However, the Institute's present standards for the Engineer's degree are very high, and it was agreed that in time the M.I.T. Mechanical Engineer's degree would find a respected place.

The problem of graduate education for people in industry was brought up by Ronald B. Smith and there was considerable discussion on this subject. Faculty members pointed out that proposals for night school graduate activity would inevitably be associated with a lowering of standards in the Graduate School. President Killian stated that the Institute had elected to offer professional conferences and seminars during the regular academic year, as well as during the summer, and possibly could make a greater contribution to education in industry in this manner than through regular night school work. The Committee expressed the hope that more industrial corporations would give support to graduate study by granting educational leaves of absence.

Members of the staff presented complete reports as follows: Professor Edward R. Schwarz, '21, on the work in Textile Technology; Professor Egon Orowan on the educational program of the New Materials Division; and Professor John A. Hrones, '34, on the situa-

(*Continued on page 106*)

*Members of this Committee for 1952–1953 were: Thomas H. West, '22, chairman, Andrey A. Potter, '03, Walter J. Beadle, '17, John A. Lunn, '17, Charles A. Chayne, '19, H. W. McCurdy, '22, L. K. Sillcox, and Ronald B. Smith.



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THE INSTITUTE GAZETTE

(*Continued from page 104*)

tion confronting the Department in its attempt to synthesize the many activities relevant to manufacturing and production.

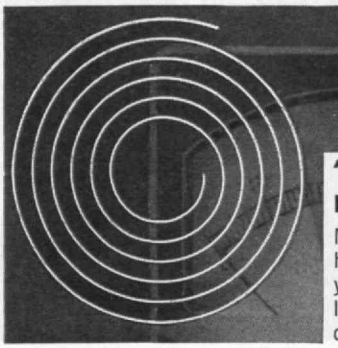
Brief reports on other subjects were given by three associate professors: John E. Arnold, '40, on activities in creative design; William A. Wilson on his experiments with the group project system in laboratory instruction; and William MacG. Murray, '33, on the Co-operative Course, II-B.

President Killian and Professor Soderberg emphatically endorsed the Committee's interest in recognition of good teaching, and described the Institute's continual endeavors to reward effective teaching in its promotions and salary policies, management of research policies, insistence upon participation in creative activity, and so on.

The provision of a Commons Room for the students' leisure and study hours and for meetings and discussions with members of the staff was approved by the Committee. Space is available below the Mechanical Engineering headquarters, and attractive plans have been prepared by students under Professor Arnold's supervision. This plan includes modification of the Department's headquarters into a more effective assembly place. The Committee agreed to sponsor an appeal to Alumni of Course II to obtain the necessary funds for the new quarters, which will be designated as the Edward F. Miller Room, in honor of this distinguished Alumnus of the Class of 1886, and former Head of the Department.

Special tribute was paid by Thomas H. West, '22, the chairman, to the activities of Dr. Potter (M.I.T. Class of 1903), Dean of Engineering at Purdue University, who has served on this Committee for four years. It is sometimes difficult for those concerned principally with industrial activities to offer constructive advice and criticism in the academic field, and an outside point of view from such a distinguished educator as Dean Potter has been wonderfully useful, particularly during the difficult period when the undergraduate curriculum was being revised. He never failed to propose stimulating questions and to offer constructive suggestions for their solution.

(*Continued on page 108*)



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(*Continued from page 106*)

Plans for Aeronautics

MEETING in the Du Pont Room at M.I.T., members of the Visting Committee on the Department of Aeronautical Engineering* convened on April 14, 1953, with Julius A. Stratton, '23, Vice-president of the Institute, Edward L. Cochrane, '20, Dean of the School of Engineering, and staff members of the Department in attendance. The report of the Committee was received for publication in The Review on July 29, and a summation of some of the important subjects considered by the Committee is presented in the following paragraphs.

A decline in undergraduate enrollment in the Department has taken place in recent years. The practice of personnel representatives from aircraft companies to employ graduates from any and all courses in science and engineering also has tended to discourage enrollment in aeronautics. It is suggested that undergraduate scholarships, provided by interested industrial organizations, would provide an effective stimulus in encouraging young men to think seriously of the opportunities in aeronautical engineering.

The Committee also considered means for keeping staff members abreast of current practice in the industry by direct contact with industrial organizations for continuous periods of several months. The success of such a program of Faculty education in industrial problems requires that the staff include enough members to carry on normal departmental activities while other members are on leave. It was the feeling of the Committee that staff size should be adjusted to make Faculty educational leaves possible in the critical areas where effective teaching is dependent upon knowledge of current industrial practice.

It was brought to the Committee's attention that critical comments have been received on the state of knowledge of Institute graduates in the fields of patents, legal, and budgetary procedures, and other areas in which a practicing engineer must work that are not immediately related to a narrowly technical conception of his responsibilities. It was suggested that much valuable information in this field might be acquired by directed outside reading. The Committee concurs in the opinion that such broader knowledge and background is essential for the high-grade practicing engineer, and recommends that its inclusion in existing courses, at least to the extent of giving adequate direction to outside reading or seminar treatment, be given most serious consideration.

Modern aircraft engineering departments are making extensive use of automatic computing machines in the solution of design problems, and in the reduction of test data. These machines have become such an important and permanent part of modern aircraft en-

(*Concluded on page 110*)

* Members of this Committee for 1952-1953 were: B. Edwin Hutchinson, '09, chairman, Godfrey L. Cabot, '81, Arthur E. Raymond, '21, James H. Doolittle, '24, Lawrence D. Bell, Edward M. Powers, and Gwilym A. Price.



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(*Concluded from page 108*)

gineering that M.I.T. graduates should have at least been introduced to the techniques of their operation. The Committee was gratified to learn that the fundamentals of analogue computing machinery have already been included in the course structure in Aeronautical Engineering, and that this work reaches into the undergraduate curriculum. However, the analogue computer is only a part of the picture, and graduates going into the fields of design, structures, and aeroelasticity will be only partly prepared unless additional course material is introduced to cover digital computing machinery. The Committee encourages a proposed program involving use of the Institute's punched-card equipment for course work and recommends that it be put into early operation. With regard to the long-term solution to the problem of teaching automatic computing techniques, the Committee is inclined to feel that a modest installation of equipment within the Department and continually available to the students, is far superior to an elaborate computing center used for nonteaching purposes.

Recognizing the close interrelation which exists between the efficiency of aircraft structures and the properties of materials comprising the structures, the Department is now revising its curriculum in structures so that properties of materials can be taught as an integral part of the work in airplane structures. Lack of a universal testing machine to demonstrate properties of aircraft materials and the phenomenon of instability of structural components severely handicaps this program. The Committee concurs with the views of the Department on the teaching of aircraft structural materials, and strongly recommends that the Department be supported in this direction.

Octantal Sphere

LAST July construction was begun on a new auditorium, designed to seat 1,200 people, according to an announcement by Robert M. Kimball, '33, Director of the Institute's Division of Business Administration. The new building, which will occupy a large plot on Memorial Drive a short distance west of Massachusetts Avenue, has been made possible by a gift from the Kresge Foundation. It is expected that the building will be formally open in the fall of 1954.

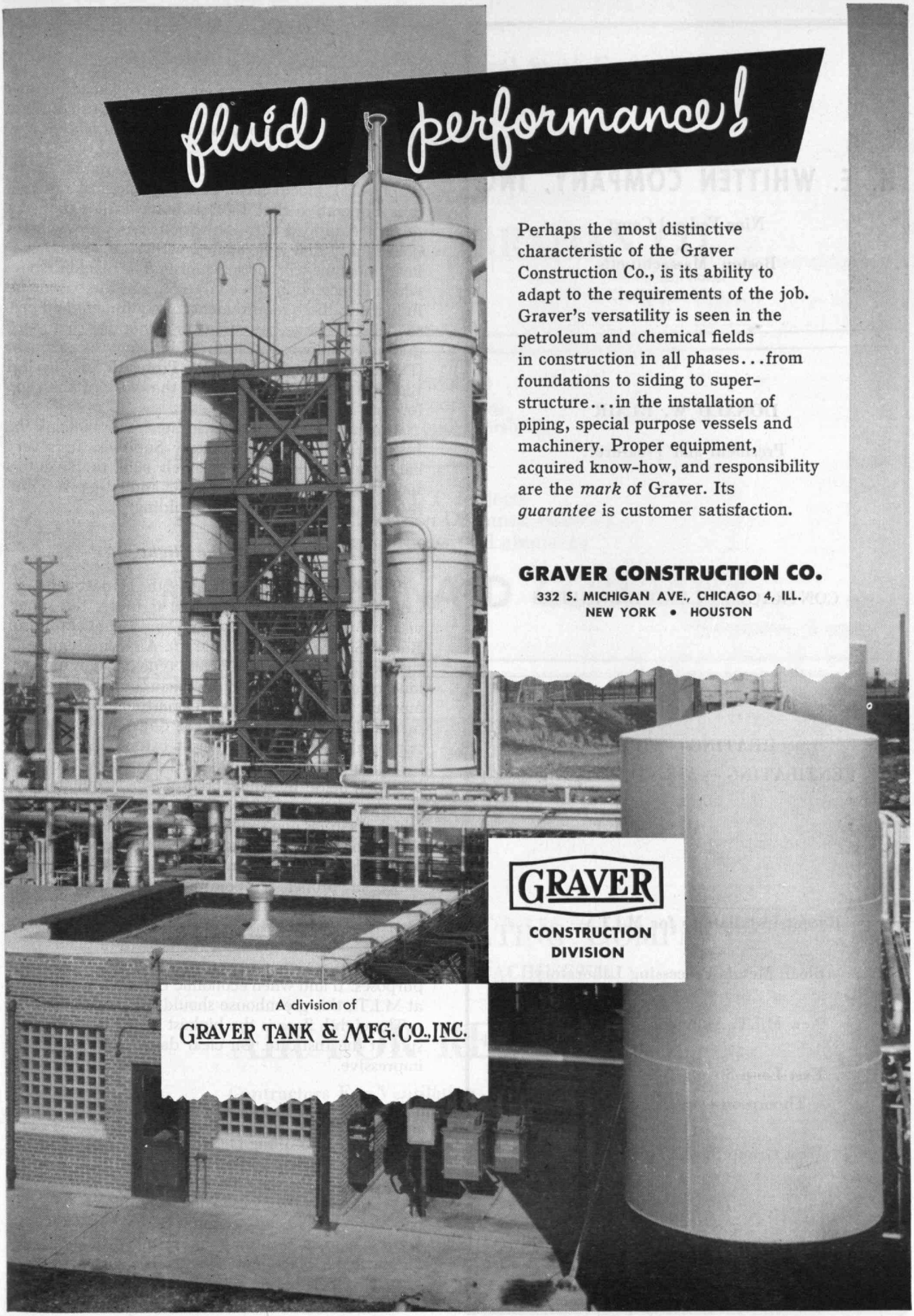
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West Group Steam Tunnel

BIOLOGICAL SCIENCE

(*Continued from page 86*)

bays on the south side are employed as headquarters for a number of these students. The chief use of these small bays is for the offices and personal laboratories of the professorial staff.

In view of the wide use of instrumentation in the biophysical, biochemical, and physiological research it is imperative that the mechanical shop be adequately equipped with the various types of machines needed and that it be staffed with highly competent instrument makers and machinists. The machine shop, which is located in three large bays in the basement, fully meets these requirements of equipment and personnel. One large bay serves as a shop for the use of graduate students and staff. The Biology Department (David F. Waugh, Associate Professor of Physical Biology, in charge) supervises the work of the shop for both Departments.

Also in the basement is located a branch of the Institute's Office of Laboratory Supplies. It is very handy to students and research staff to have this source of glassware, chemicals, and other supplies readily available in our own building.

Top of the Flight

The animal farm, serving both Departments, is located on the eighth floor and is under the supervision of the Food Technology Department (Professor Robert S. Harris, '28, in charge). Air conditioning of the rooms and the most efficient type of cages for each kind of animal make for the maximum health of the animals. Actually, neither Department uses larger mammals, such as anthropoids, dogs, or cats, to any appreciable extent. Used most extensively are rats, mice, guinea pigs, rabbits, and hamsters. Provision has been made by which cold-blooded animals, such as frogs, turtles, and fish may be kept in an aquarium which occupies one small bay in the basement.

Also located on the eighth floor is a spacious greenhouse equipped with automatic devices for maintenance of proper temperature and humidity. The greenhouse is maintained and operated by the Biology Department (John H. D. Bryan, instructor, in charge). It provides ample space for the growth of plants used in the various courses and cultivated for research purposes. If and when economic botany is undertaken at M.I.T., this greenhouse should prove valuable.

The eighth floor is the highest generally accessible spot at the Institute. On clear days the view is most impressive.

Staff Headquarters and Facilities

Headquarters of the Department are located on the fifth floor on the small-bay side. On either side of the general office are the offices of the Department head and the executive officer. The latter office has for the past three years been occupied by Professor Richard S. Bear, who, in addition to performing the numerous duties of this office most effectively, as well as those of professor of biophysical chemistry, has also been

(*Continued on page 114*)

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BIOLOGICAL SCIENCE

(*Continued from page 112*)

space officer for the Department for the past eight years. It was his job not only to co-ordinate the plans of the various staff members for their respective quarters in the new building but to transmit these plans to the architects and supervise the move from the old to the new quarters.

The design and use of the Department's portion of the building reflects the major research interests of the staff: the application of physical and chemical methods in the solution of biological problems. The approach is analytical in nature and has been expressed as "biology at the molecular level."

One of the most significant aspects of molecular biology is the determination of the molecular structure of tissues and their constituents. For this purpose superb equipment has been assembled, including: electron microscopes (two in the author's group and two for the group of Cecil E. Hall, '48, Associate Professor of Biophysics, both on the fifth floor); polarization and phase contrast optics (in several laboratories); x-ray diffraction (in Professor Bear's group on the seventh floor are four units designed for various types of work); and spectroscopy (located on the seventh floor). For the determination of the shapes, sizes, and properties of large molecules in solution, physical chemical equipment has been assembled, including ultracentrifuges, electrophoresis, viscosity, diffusion, streaming birefringence, and light scattering. This equipment is concentrated on the third floor and is under Professor Waugh's direction. Problems of instrumentation, particularly of an electronic nature, are dealt with by the group under Professor Kurt S. Lion, Associate Professor of Applied Biophysics, on the seventh floor. Each of these specialized pieces of equipment requires special services and laboratory design.

With the investigation of the molecular machinery of tissues it is equally important to study the biochemical processes by which chemical energy is made available to the molecular effectors of the cell and the processes by which the complicated substances — proteins, carbohydrates, lipids, nucleic acids, and so on, are synthesized. These aspects are dealt with by members of the Division of Biochemistry and by the

(*Continued on page 116*)

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BIOLOGICAL SCIENCE

(*Continued from page 114*)

group under Irwin W. Sizer, Associate Professor of Physiology, on the sixth floor. I shall not dwell in detail upon the Division of Biochemistry, for this is discussed in the accompanying article, "Biochemistry at M.I.T.," (page 87) by Professor John M. Buchanan, who is in charge of the Division. However, I shall take this opportunity to indicate my own pleasure at the establishment of this Division within the framework of the Biology Department under a man so highly endowed professionally and personally as Jack Buchanan.

The Divisional Idiom

Some explanation of the divisional idiom may be warranted. The fields which have thus far received major emphasis in the Department are biophysics, biochemistry, and cell physiology. Teaching and research in these fields have been done by individual staff members; matters of academic concern have been dealt with by the Department's faculty as a whole. Under the divisional scheme the teaching and also the general lines of research in the field of the Division, are determined by the faculty of the Division under the divisional chief. Although the Division thus enjoys autonomy within the Department, its staff form part of the Department's faculty and sit with that faculty in determining departmental affairs.

(*Concluded on page 118*)

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BIOLOGICAL SCIENCE

(Concluded from page 116)

The divisional idiom accomplishes three highly valuable objectives: (1) It lays the responsibility for the teaching and research in particular areas in the hands of those best qualified for such responsibility; (2) It permits and encourages close co-operation between those trained primarily in chemistry or physics with those more biologically orientated; (3) It places the planning of the Department's affairs in the hands of the divisional chiefs under the chairmanship of the Department Head. Thus is encouraged the highest professional standards in individual fields without sacrifice of the co-operation and synergism which lead to a unique idiom and to progress in analytical biology. It is expected that, when circumstances warrant, a Division of Biophysics will be established along lines similar to those which characterize the Division of Biochemistry. It would be premature to discuss still further future developments though it is obvious that, in the evolution of the Department, still other new departures may be expected.

To progress rapidly in the solution of problems of analytical biology, it is becoming more and more necessary to employ the full battery of physical and chemical techniques. Few, if any, individuals are capable of doing this alone. More and more, co-operation and teamwork are needed between experts in the various disciplines and subdisciplines. Such close interaction may be expected to become increasingly more efficient under the divisional scheme now adopted than if the various aspects of biology (biochemistry, biophysics, cell physiology, and so on) were given full departmental status. There is thus developing a "Biological Institute" within the Institute devoted to teaching as well as to research in the general field of analytical biology. This department or "sub-Institute" will, I daresay, have important interaction on the entire scientific body of the Institute. It has already had, and will enjoy an ever increasing impact on teaching and research in this aspect of biology nationally and internationally.

In closing this brief article about our new building, I should indeed be remiss in my duties to my colleagues if I did not express, on behalf of them and of myself, our deep appreciation both to the principal donor of the building, the Campbell Soup Company, and to the Administration of M.I.T., which allocated the funds needed. We also acknowledge with our best thanks the very substantial gifts of the Rockefeller Foundation (to be applied to the general needs of the Department) and of the Commonwealth Fund (to assist in the training of postdoctoral medical fellows) and to our numerous other benefactors.

At this writing the Department has occupied the Dorrance Building for about 10 months. While this building is no exception to the rule that no building is perfect, the staff and students have already learned to love it and to be very proud of it. We wish to express our appreciation, and we pledge our best efforts to use the new facilities in a manner best calculated to advance teaching and research in biological science.

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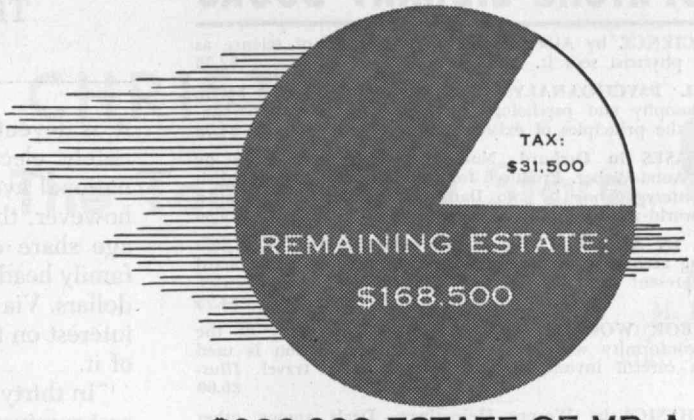
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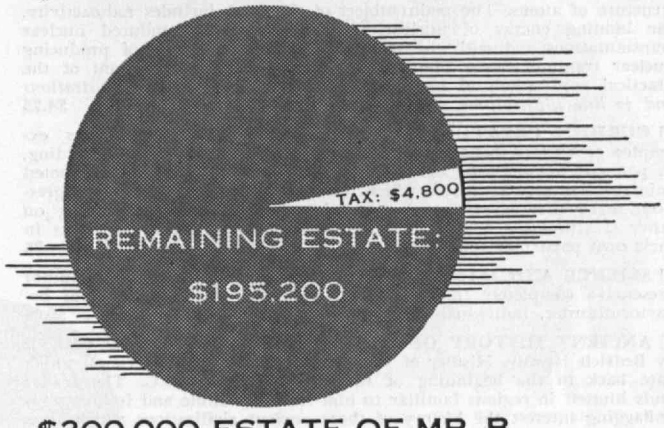
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THE TREND OF AFFAIRS

(*Continued from page 80*)

it is seventeen hundred dollars per capita. Fortunately, electronics technical personnel are above the national average as to economic status. This means, however, that they are carrying a greater than average share of the national debt. The debt of each family head is in reality not less than twelve thousand dollars. Via the tax route you must each year pay the interest on this amount as well as amortize some part of it.

"In thirty years we have seen the number of broadcast receivers in use increase from nothing to 115 million. It is today a reasonably steady industry, although quite competitive. Television set manufacturing, while also very competitive, is growing much faster than audio radio did at the corresponding age period. Television sets in use increased from practically nothing in 1947 to about twenty-six million at the present time. An annual increase of better than six million is currently indicated. In ten years may the number of TV sets in use be approaching 100 million?

"There are about 2,500 A-M broadcasting stations on the air, together with nearly 600 F-M stations. About 230 TV stations are already in operation with approximately another 450 holding construction permits. There are already definite indications of lack of competent technical operating personnel. In safety and special radio services, over two hundred thousand stations are in operation. In spite of current shortages in technical personnel, this is a field that has been attractive to radio men, which is just another way of saying that pay tends to be on the low side.

"Over-all electronics employment does not have much meaning because of lack of exact definitions. The Bureau of Labor Statistics indicates that there are approximately 170,000 persons employed in the radio and television industry with nearly another 200,000 in other branches of electronics. These presumably include those in the vast field of guided missiles and allied defense projects. Much of this data was obtained through the assistance of the Radio-Electronics-Television Manufacturers Association. What about the whole computer field? Is there not also large and ever increasing employment there? I wonder how many people realize the extent that manufacturing and mercantile companies will be employing electronic business machines in the years ahead. The already developed shortage of clerical personnel makes rapid development in this area a certainty.

"There is also indication in spite of the Korean truce that large sums of defense funds will continue to be allocated to electronic research and production. 1954 may well be a record year for delivery of electronic equipment to the military. However, do not let us become more heavily involved in government operations by letting government become more involved in communications activities, be they direct communications or broadcasting. If we allow this governmental encroachment, I predict that real opportunities in our industry will be substantially reduced.

(*Concluded on page 122*)

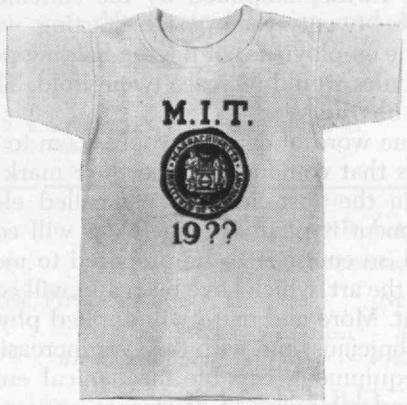
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THE TREND OF AFFAIRS

(*Concluded from page 120*)

"Five years ago in addressing the annual convention of the I.R.E. I took vigorous issue with the Department of Labor, which had just advised students to keep away from engineering because it was an overcrowded field. I stated that if there were lack of employment it would be only from lack of sufficient training, which would limit employment to levels below the aspiration of the young engineer. Futhermore, I then stated that more positions than ever before were indicated for those adequately prepared for them. This was further amplified by the statement that I felt in the twenty-year period starting with World War II the employment of degree-holding personnel in electronics would increase twentyfold. This I still believe to be true.

"In closing, one word of caution would seem to be in order. Things that come easily lose their mark of value. Today, in the vast field loosely called electronics, employment is plentiful. This field will continue to expand, so continue to be prepared to meet the advances of the art, which have been and will continue to be great. More and more will applied physicists replace technicians, and with the ever increasing complexity of equipment, capable mechanical engineers with an understanding of electronic principles could well become the high paid group of our industry. In whatever activity one engages in, it is always well to recall the old axiom which says that greatness comes not so much from the power to command as from the acceptance of the obligation to serve."



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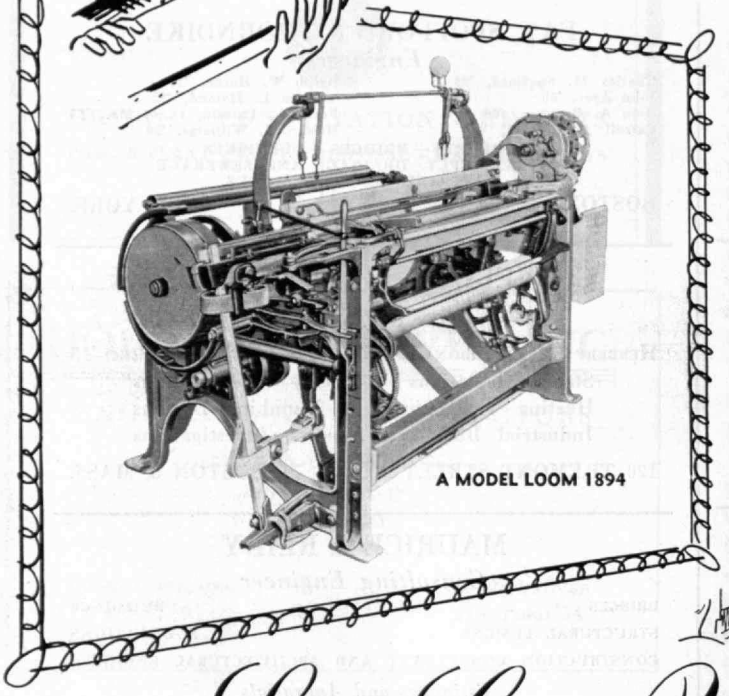
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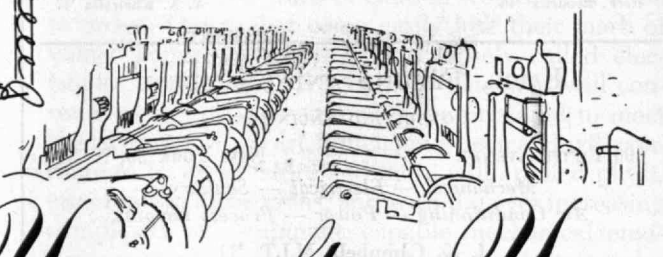
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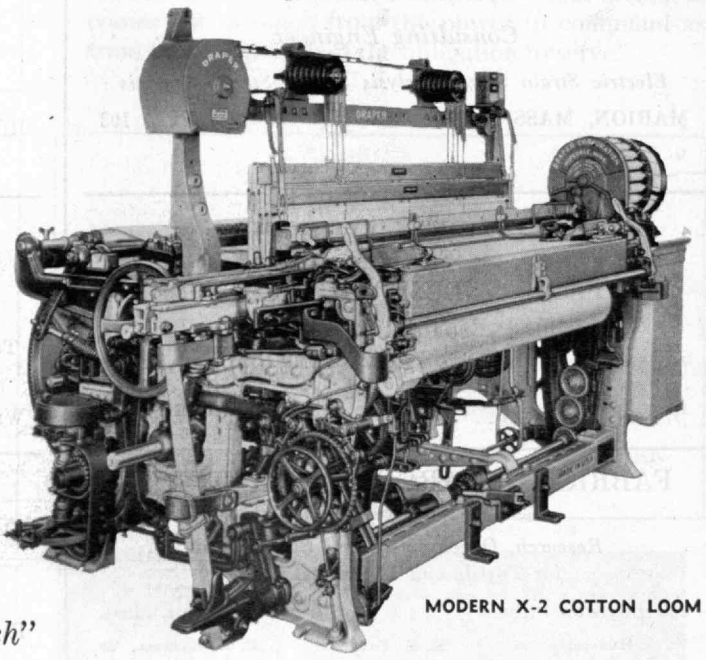
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Alumni AND Officers IN THE News

Alumni Papers Honored

The American Society of Civil Engineers has published a volume entitled *Centennial Transactions* which contains 80 papers presented at the centennial celebration of the founding of the A.S.C.E. in Chicago in September, 1952. Of the 80 papers reproduced, the following 13 were written by Alumni:

"Expansion of the Chicago, Ill., Water Supply," by W. W. DE BERARD'01.

"Progress in Sanitary Engineering in the United States," by E. SHERMAN CHASE'06.

"Testing Stations for Sanitary Engineering – An Outstanding Achievement," by S. A. GREELEY'06.

"Synergism Between Engineering and Petroleum," by R. E. WILSON'16.

"Achievements in Engineering Education," by T. SAVILLE'17.

"Lowering Concrete Costs by Improved Techniques," by J. R. HARDIN'21.

"Effective Utilization of the Sanitary Engineering Profession: Report of the Committee of the Sanitary Engineering Division on Advancement of Sanitary Engineering," by T. R. CAMP'25, G. M. FAIR '16, et al.

"Evolution of the Modern Hydroelectric Power Plant," by M. G. SALZMAN'25.

"Future Possibilities in Civil Engineering," by J. B. WILBUR'26.

"The Importance of Dynamic Loads in Structural Design," by J. B. WILBUR'26 and R. J. HANSEN'48.

"Earth Dam Practice in the United States," by T. A. MIDDLEBROOKS'30.

"How New Materials Increased Man's Building Ability," by W. C. Voss'32.

Speaking for Science

FREDERICK S. BLACKALL, JR.,'22, spoke at a meeting of the American Society of Mechanical Engineers in early October. His subject was "A.S.M.E. Standards Save Lives and Dollars."

WALTER C. Voss'32, Professor Emeritus and Lecturer and former Head of the Department of Building Engineering and Construction, spoke on October 13 at the meeting of the Delaware Section of the American Society of Civil Engineers in Wilmington, Del. The subject of his talk was "Remedies for Common Difficulties in Building Construction."

DORIAN SHAININ'36, National Executive Secretary of the American Society of Quality Control, was the speaker at a dinner meeting of the New Haven Chapter, Society for Advancement of Management, on September 24. Mr. Shainin chose for his topic, "Cutting Costs Through Quality Control."

BURNHAM KELLY'41, Associate Professor of City Planning, and Director of the Albert Farwell Bemis Foundation, discussed the subject, "Reshaping Our Cities," at the National Conference of Editorial Writers held in Boston at the Hotel Kenmore on October 17.

Professional Peaks

WILLIAM D. COOLIDGE'96 received the Henry Spenadel award on October 5 at a scientific meeting of the First District Dental Society of the State of New York. The annual award was established in 1950 to encourage and honor individuals or organizations making significant contributions to dentistry and to honor the late Dr. Henry Spenadel.

HENRY C. HARRISON'13 received the Emile Berliner Award from the Audio Engineering Society on October 15 ". . . in recognition of his outstanding inventions and developments in audio engineering; for his application of transmission line principles in loudspeakers and the lateral, rubber line recorder used in making the first and many subsequent electrically cut records for phonograph and talking movie applications; and for his contributions to carbon-button microphones, the orthophonic victrola, wire-spring relays and a multi-reed selective signaling system used in mobile radio."

EDWARD C. WENTE'14 was awarded honorary membership in the Audio Engineering Society on October 15 in recognition of his outstanding achievements in audio engineering.

GEORGE C. NEWTON, JR.,'41, was the recipient of a Lewis E. Levy Medal for his outstanding paper, "Compensation of Feedback-Control Systems," which appeared in the October and November, 1953, issues of the *Journal of The Franklin Institute*. The award was made by The Franklin Institute of the State of Pennsylvania on October 21.

BERNARD J. DRISCOLL'42 was presented with the U. S. Department of the Air Force "Decoration for Exceptional Civil Service," on September 7 at the London General Assembly of the Advisory Group for Aeronautical Research and Development of the North Atlantic Treaty Organization. The award recognized Mr. Driscoll's work as Executive Secretary of the U.S.A.F. Scientific Advisory Board during the period from 1949 to 1952.

Alumni Educators

CARL H. HOLMBERG'16 has been appointed associate professor in the Civil Engineering Department at Tufts College.

CHARLES F. EDLUND'30 has been named dean of faculty at Lowell Technological Institute. The announcement was made on September 22.

ROBERT B. WOODWARD'36 has been appointed the first Morris Loeb professor of chemistry at Harvard University.

LESTER LEES'40 was named to the rank of associate professor of aeronautics at the California Institute of Technology.

WALTER H. LOB'41 was recently promoted to the rank of assistant professor of research at Northeastern University.

Obituary

ERASTUS WORTHINGTON'85, October 17.
JOSEPH B. GAY'87, September 14.
ARTHUR R. NICKELS'87, October 6.
ALEXANDER F. MACDONALD'88, October 1.
GEORGE T. ATKINSON'91, June 7.
EDWARD W. DONN, JR.,'91, August 9.*
ALICE B. GOULD'91, July 25.*
KING W. MANSFIELD'91, July 27.*
ROBERT C. SPENCER'91, September 9.*
HAROLD G. FITZ'95, September 13.*
HENRY A. HOLDREDGE'95, July 17.*
JOHN ASHTON'96, September 30.
PERRY B. HOWARD'96, September 25.*
ARCHIBALD L. PARSONS'97, September 24.*
HARVE R. STUART'99, August 14.*
FRANK A. WERNER'99, July 6.
HARRY C. HANSON'00, August 15.*
ALBERT W. HIGGINS'01, September 27.*
GEORGE E. MARSH'01, October 16.
FREDERICK N. FOWLER'02, September 19.*
THEODORE V. FOWLER, JR.,'02, May 22.
HARRY L. STRAND'02, October 5.*
STEPHEN R. BARTLETT'03, August 29.
WILLIAM W. DUNCAN'04, July 7.
WILLIAM H. BLAKEMAN'05, May 27.*
THEODORE GREEN'05, August 2.*
STANLEY D. MOORE'07, Spring, 1953.
PAUL B. LORD'09, August 9.*
JOHN T. ARMS'11, October 13.*
NORMAN NELSON'11, March 22, 1952.*
W. GRAHAM COLE'12, April 12.*
FRANK H. CURTIS'12, March 6.*
PAUL E. JEFFERS'12, August 7.*
W. WHEATLEY MOWRY'12, January.*
AKSEL M. PEDERSON'12, June 12.*
WILLIAM H. TORREY'13, July 19.
TOM R. COLE'14, June 30.
AUGUST H. MILLER'14, August 24.*
CHARLES L. BRAND'15, April 18, 1952.*
RALPH W. E. COLE'15, July 6.*
JOHN C. HOLMES'15, March 26.*
MRS. HOWARD W. WELLWOOD'15, June 10.*
HORACE R. BENNETT'16, August 19.*
FRANK E. DRAKE, JR.,'16, October 18, 1952.*
JOSEPH J. FOUHY'16, August 30.*
HORACE G. SWAN'18, September 7.
JAMES B. SCULLEY'19, 1943.
JAMES F. DOWNEY, JR.,'20, October 4.*
PAUL H. DUNCAN'20, August 23.*
HARRY E. TERRELL'24, October 6.
CLARENCE J. MCDONOUGH, JR.,'25, April 20.*
KENNETH E. HILL'26, January, 1952.
JOHN K. PRICE'26, October.
ARTHUR A. BERSTEIN'34, September 12.*
HENRY C. BABCOX'35, July 25.
IAN N. FRASER, 2–46, May 6.

* *Mentioned in Class Notes.*

News FROM THE Clubs AND Classes

CLUB NOTES

M.I.T. Club of Buffalo

The Club held a picnic on the estate of Roswell Pfohl'17 on Grand Island, N.Y., on September 19, and it was attended by Roswell Pfohl'17, Joseph Ryan'31, Jesse Billings'30, Anton Hittl'36, Henry Daley, Jr.,'47, Fred Bretschger'48, Val Hwoschinsky'40, Roy Fitzmaurice'50, Walter Sherry '37, Alan Ker'47, Joseph Engel'37, Harold Mitchell'12, and your Secretary.

We are having a dinner in honor of Professor Rohsenow at Hotel Sheraton on October 26 and expect a very good attendance. I shall report about it in another issue. — CHRISTIAN KURTZMANN'09, *Secretary,* 50 Normal Avenue, Buffalo 1, N.Y.

M.I.T. Club of Central New York

The Club participated in a joint meeting on October 8 with General Electric Engineers Association and Syracuse Section of S.A.E. for the first official function of the Club in the 1953-1954 season.

Under the joint auspices of the three clubs, Joseph O. Fluet, Chief of the Civil Aeronautics Board Safety Investigation Bureau, spoke on "How Safe is Commercial Aviation?" and then answered a multitude of questions from the very interested and spontaneous audience.

Alumni who attended a small dinner preceding the address were: Donald Kidd '42, President, John Cowan'47, Secretary, Edwin Gruppe'22, Earle MacLeod'38, Fred Hodgdon'42, Fred Hungerford'24, Don Arsem, 2-44, and C. D. Luke'31. — JOHN L. COWAN'47, *Secretary,* 104 Wycliffe Road, Solvay 9, N.Y.

M.I.T. Club of Chicago

Fortunately for our first activity of this year we did not start out with a bang. The wife of one of our members said she feared going into the Synchrocyclotron Building at the University of Chicago for fear that one of the atoms would explode. That was where we took our first tour on October 6.

Les Kornblith'38, one of the guiding lights at this research center, explained the general operations of the Synchrocyclotron after our dinner at the Quadrangle Club on the University campus. To the surprise of many of us, this nuclear research was not restricted. What is even more interesting is that in this pure research project they get answers for which they would like to find problems, which is a new twist.

Another interesting feature of the evening was a movie explained by the Director of the Biophysics Research Laboratory showing the actual dividing of a molecule and its nuclei and genes. The movie was speeded up about 60 times faster than the action took place.

Last spring these men were elected to the following offices of our club for the ensuing year: President, Dick Meyer, 3d, '42 — Acme Steel; Vice-president, Bob Wise'28 — Booz, Allen and Hamilton; Treasurer, John H. Wills'26 — Northern Trust Company. — ALFRED S. ALSCHULER, JR.,'35,*Secretary,* Friedman, Alschuler and Sincere, 223 West Jackson Boulevard, Chicago 6, Ill.

M.I.T. Club of Fort Worth

The Club, having decided to hold quarterly meetings, held the spring meeting on June 17 and the summer meeting on September 17. Both meetings were held at the fabulous Western Hills Hotel. This establishment, of which Bill T. Green'40 is a part owner, has become famous in this area as well as in the nation for the many innovations it has made. One of these is an occupancy rate close to 100 per cent. The food is famous in this area, so a wonderful time was had. The programs at each meeting were most interesting, covering as they did topics of general interest to all attending. These quarterly meetings have become somewhat of a social event in the lives of the M.I.T. Alumni in this area since the better halves also attend.

The final meeting of the year is scheduled to take place on December 3 at the Fort Worth International Airport. This meeting is planned as a joint meeting with the Alumni of Dallas. The airport is situated about halfway between the two cities which makes it an interesting drive. So far as we know, this will be the first joint meeting of the Dallas-Fort Worth groups that has been held. We all hope that every M.I.T. man (and wife) in this area will find it possible to attend this December meeting. Any M.I.T. men who find themselves at the Fort Worth airport on the evening of December 3, be sure to stop in and have dinner with us. — RALPH R. UHRMACHER'31, *Secretary,* 3531 Westcliff Road, South, Fort Worth, Texas.

M.I.T. Club of Hartford

The program for the 1953-1954 season will introduce, at least for us, a new approach to the subject of Alumni Association meetings. For the first time the material presented will form a series of related topics. The title of this season's program is "Preparation for Engineering Leadership."

Details of this co-ordinated schedule of meetings are being sent out in the usual manner by direct mail. The speaker for the first of the series to be held in November will be E. P. Brooks'17, Dean of the new School of Industrial Management; the second speaker for the January meeting will be Professor Mason Smith, Management Consultant now on the Industrial Management faculty.

We are delighted to be able to announce this plan on which we have the Institute's complete co-operation and hope that each of you will be able to attend as many of this series of meetings as possible. — CHARLES P. BRITTON'33 *Secretary,* 15 Lewis Street, Hartford, Conn.

Indiana Association of the M.I.T.

The Club's 1953-1954 season was capably launched by Frank Travers'23, who described his recent trip through Europe, and Lowell Holmes'23 reporting on his class reunion. Frank's talk to the Club last year after the alumni meeting in Mexico was the high light of the season and, as was expected, his name as speaker on the program resulted in a good showing of members for this meeting. Since past seasons have demonstrated that ladies' nights are more popular than meetings restricted to Alumni only, this year our opening announcement invited wives of members to all meetings of the season.

Dr. Herbert Kent'49, seen regularly at last year's meetings, and active in our program efforts, has been called into the armed forces. A card from him says that his family is in England and he in Texas. We look forward to having them back when his term of service is completed.

Tentatively scheduled for one of our spring meetings is a visit to the Indiana University Observatory south of Indianapolis. It looks like a good season for programs and attendance.—THOMAS C. DORSTE'47, *Secretary-Treasurer,* 1210 East 71st Street, Indianapolis, Ind.

New Haven County M.I.T. Club

The Club held its annual outing at the Pine Orchard Club, Branford, Conn., on the afternoon and evening of June 20, 1953, with 46 members and guests present. A program of golf, tennis, swimming, and bridge was enjoyed during the afternoon. Edgar Taft'13 very generously made his cabin cruiser available for boat rides and members and guests were treated to a trip throughout New Haven Harbor. Cocktails were served at 5:30 P.M., followed by a buffet supper.

Annual reports were made by President Richard Maconi, 2-44, Treasurer John Kearns'32, and Secretary Robert Harper'40. Albert P. Libbey'26 made the awards for the sports and bridge events. Roy Parsell'14, Chairman of the Nominating Committee, announced the election of the following officers for the coming year: Governor-at-Large, Richard Maconi, 2-44; President, David Black, 6-46; Vice-president, Albert Libbey'26; Secretary, John Kearns'32; Treasurer, John B. Gardner, 2-44.

Among the members and wives present were the following: Mr. and Mrs. David G. Black, 6-46, Mr. Robert W. Dennis'26, Mr. and Mrs. Paul W. Douglass'51, Mr. Raymond D. Edwards'39, Mr. and Mrs.

Philip Drissigacker, Mr. and Mrs. Lawrence Grew'27, Mr. and Mrs. Robert S. Harper'40, Professor Hudson Hastings'07, Mr. and Mrs. John E. Kearns'32, Mr. and Mrs. Albert P. Libbey'26, Lester Lewis '22, Mr. and Mrs. John Livingston'41, Mr. and Mrs. G. Vincent Maconi'15, Mr. and Mrs. Richard G. Maconi, 2-44, Mr. and Mrs. Harold Manning'12, Mr. and Mrs. Frank Nettleton'30, Mr. and Mrs. Roy Parsell'14, Mr. and Mrs. Roger Purssell '28, Mr. and Mrs. Herbert Polleys'18, Mr. and Mrs. Russell Robinson'32, Mr. and Mrs. Haig Salokian, Mr. and Mrs. George Schneller'40, Mr. and Mrs. Edgar Taft '13, and Mr. and Mrs. Marshall Wellington'16—JOHN E. KEARNS'32, *Secretary*, Box 649, Middlebury, Conn.

M.I.T. Club of Northern New Jersey

B. A. Thresher'20, Director of Admissions at Tech, met recently with the officers of the Club and the entire membership of the Educational Council to discuss problems encountered in the screening of potential students. The session was held at the Hotel Suburban, East Orange.

Bat complimented the group on the way they had provided coverage in this area. He added that the information gathered at the local level by the Educational Council is all important in evaluating an applicant's qualifications. In many cases this personal contact brings out points an application blank does not.

Following a short talk by Bat, the meeting was put on a question and answer basis. It was during this period that individual problems of the members of the Council were solved.

Among those attending the meeting were Sumner Hayward'21, Chairman of the Education Council in New Jersey, Glenn D. Jackson'27, President of the Club, Jack F. Andrews'33, Vice-president, Russell Westerhoff'27, Secretary, Joseph Wenick'21, Treasurer, and Warren J. King'48, Assistant Secretary and Publicity Secretary.

The first meeting of the Club for the 1953-1954 season was held on the evening of October 22 at the Hotel Suburban, East Orange. Films were the feature of the program. — RUSSELL P. WESTERHOFF'27, *Secretary*, 823 East 23rd Street, Paterson, N.J. WARREN J. KING'48, *Assistant Secretary*, 336 B Plaza Road, Fair Lawn, N.J.

M.I.T. Club of Schenectady

The regular monthly luncheons of the Club began the new season on October 13 with a kick-off session featuring a panel discussion of "Some Cultural Aspects of Schenectady Life" at Ferro's Restaurant. Our esteemed alumnus, Professor Harold W. Bibber'20, Head of the Electrical Engineering Department at Union College, arranged the discussion which centered around the activities of the Schenectady Civic Players and the Schenectady Light Opera Company. Audience participation was furnished by some 30 members including such notables as R. Cutts'27, Admiral W. A. Kitts'22, Mrs. B. O. Buckland (Class of 1492!), P. L. Alger'15, plus a host of the younger crew.

Planned for the second Tuesday of each month (visitors most welcome), meetings this year will take the theme of Schenectady in order to acquaint and refresh the minds of newcomers and aborigines alike, as to the physical, cultural, and historical aspects of Old Dorp.

The November meeting will take up the engineering services offered by Schenectady. John F. Lucey'29, City Engineer, will lead the discussion. The municipal structure of county government will come under scrutiny in the December meeting. In January we will have our usual dinner meeting featuring a speaker from M.I.T. At the dinner meeting last year Dean Thresher'20 gave us a colorful slant on life at Tech and the increasing need for engineers. February of the new year will bring a discussion of traffic control in Schenectady, which should be a rousing and spirited meeting. The New York State Canal System will be discussed at the March meeting and local history will be featured at the April meeting. In May the topic will be the New York State Thruway which was discussed at a meeting last year but which remains a topic of particular current interest, especially as it relates to the face-lifting it will bring to the local scene as entrance and exitways are constructed. The steak picnic in June will terminate another season's activities.

The officers for the year are: J. H. MacLeod, Jr.,'41, President, and C. F. Barrett, Jr.,'34, Treasurer. — JOHN R. M. ALGER'49, *Secretary*, 16 Washington Avenue, Schenectady 5, N.Y.

M.I.T. Club of Western Pennsylvania

On October 8, 1953, the first meeting of the year was held at the University Club of Pittsburgh, at which the following officers for the ensuing year were introduced: President, Wes Hemeon'26, Mellon Institute of Industrial Research; Vice-president, Henry Avery'41, Pittsburgh Coke and Chemical Company; Treasurer, Jim Winterbottom'30, Gulf Oil Corporation; Program Chairman, Al Oxenham'45, Pittsburgh Coke and Chemical Company; Registrar, Jim Spalding'48, U. S. Steel Corporation; Secretary, Bill Laird'43, Gulf Oil Corporation.

The group was addressed by Harry Stuhldreher, one of the famous Four Horsemen of Notre Dame, who is at present assistant to the vice-president of U. S. Steel. Mr. Stuhldreher related some interesting football stories and made some extremely pertinent remarks on the value of team athletics in the education of the youth of America. The contribution of football was particularly stressed. In closing, Harry discussed some of the latest rule changes in college football.

Twenty-five members were in attendance, although the mailing list numbers about 300. Any alumnus residing in the Western Pennsylvania, Ohio, or West Virginia area is considered a member, although the active group consists mostly of Pittsburghers. Should any alumnus in this area not be receiving monthly notices of meetings, he should immediately contact the Secretary. — WILLIAM M. LAIRD'43, *Secretary*, Box 242, Oakmont, Pa.

M.I.T. Club of Southern California

The governors met on September 30 at the Chapman-Park for luncheon and planning of the coming season's strategy. President William H. MacCallum'24, Secretary Philip A. Herrick'24, Treasurer James S. Cullison'41, past President Rockwell Hereford'24, Harold H. Strauss'38, and Hiram E. Beebe'10 attended the meeting.

The Treasurer's report showing a net gain of $160.00 on the year's operations was approved. The management is to be complimented also on keeping the profits from the 1951 *Directory* intact as a floating fund to be used in preliminary financing of projects such as the conference of January, 1952.

The Alumni will be interested in the selection of Hall L. Hibbard'28, Chief Engineer of Lockheed Aircraft Corporation, as a trustee of the Hollywood Presbyterian Hospital. Also, a gift of $100,000 has been made to William Jewell College in Liberty, Mo., in memory of the father of William W. Eaton'17, President of Forest Lawn Life Insurance Company.

Any alumnus having copies prior to 1952 of the *Journal of the American Chemical Society* or of *Chemical Abstracts* which they wish to give to a college library are urged to write the Review Correspondent. If this is read by those outside the California area, the Correspondent will be glad to guarantee transportation charges.

The Los Angeles Alumni remember with affection Kenneth Kahn'15 to whom the last *Directory* was dedicated. Soon after his passing Mrs. Kahn gave his engineering library to Pomona College. There may be many books now on the shelves of engineers who have retired or changed their occupations which would be of great value in training young students if they were sent to some college. Pomona, of course, is a natural with its combination course with M.I.T.

The meeting in the Sky Room of the Lockheed Airport in Burbank followed by a tour of the Lockheed plant was a great success due to the management of Don Tuttle in charge of public relations, assisted by Harry Kohl'37, A. A. Fogliano '39, J. A. Johnson'38, J. E. Hawkes'39, and W. W. Merrill'40, all of whom joined Lockheed upon graduation. There are 35 Tech men in the Burbank plant in various responsible positions which is a large representation of Tech men for one plant.

In the Sky Room a colored movie of experimental wing tests was watched with almost breathless interest. The wing forms were attached to rockets and pictures taken of the vibration by a camera attached to the nose of the rocket. Faster progress is made by these actual tests of various forms than by mathematical calculations. In about half the pictures the "flutter" was built up until the metal fatigue caused the experimental form to break off and the camera was recovered by parachute. For supersonic flight a stiff wing structure would seem to be necessary.

The grants of Lockheed to 35 colleges, including M.I.T., cover tuition, books, and some other expenses with the hope that the student will take a position with Lockheed upon graduation. The administration of these funds is by the respective colleges, and the contact with the students is through an alumnus from the same college who is now active at the Lockheed Aircraft Corporation.

These students and others are offered summer work after the sophomore year which, of course, helps, especially those whose homes are in California. Similarly, professors are employed to work in rotation or through the summer, bringing about an active liaison between the colleges and Lockheed. An alumnus of the college now working in Lockheed visits his Alma Mater three or four times each year bringing samples of the work at Lockheed such as film studies.

The trip through the Vega and B-1 plants is a unique experience, especially when there is opportunity to see jet fighters in all stages of construction. The wiring panel for the automatic controls of one plane are as complex as an entire plant switchboard. Now that rockets are mounted on wings, a radar view finder replaces machine guns formerly in the nose of the plane.

The high point of the inspection was the "Hall of Giants" – which houses what is probably the largest press in the world; it stands more than 40 feet above the floor and about the same below. A mammoth trip hammer, and the most interesting method of making airplane parts by stretching the aluminum sheets over a form by two massive jaws about 12 feet high is also shown in this hall. When the aluminum is at its elastic limit, it will come to the form of the die (like a rubber strip) and stay there upon removal with no internal stresses, which in other such forms of manufacture have to be removed.

The large percentage of late graduates attending was most gratifying. The presence of over 20 wives of Alumni and of three high school children made this a most delightful social occasion. Among the Alumni present were the following: Hiram E. Beebe'10; William C. Lynch '12; Richard Holmgren'19; James Reis'19; Max Untersee'19; Jackson W. Kendall'21; W. Barton Jones'23; Russell E. Collins'23; John P. Livadary'22; Charles S. McCann '23; Philip Bates'24; Homer S. Davis'24; William H. MacCallum'24; Gates W. Burrows'25; Gilbert Devaille'26; Grant Speer, Jr.,'26; Robert Hunn, Jr.,'28; Harry E. Shoemaker'29; Robert E. Miller'31; James B. Kendrick'34; Richard De Wolfe'36; Jack I. Hamilton'36; H. W. Kohl'37; Howard Britton'38; Alfred Wagner'38; Harold Strauss'38; Andrew Fogliano'39; J. E. Hawkes'39; Allen Monderer'39; James S. Cullison'41; I. Warner Knight'41; Bernard B. Helfand'43; Robert S. Toperzer'36; Richard A. Batchelder'49; William J. Oakes, Jr.,'49; Richard Holmgren, Jr. '50; William Carmack'51; George L. Larse'51; Charles A. Brown'53; Robert H. Fowble'53; Bill Hecht'52. – HIRAM E. BEEBE'10, *Review Correspondent,* 1847 North Wilcox Avenue, Hollywood 28, Calif.

Washington Society of the M.I.T.

The Club was greatly honored to have as guest speaker at its first meeting of the season, President James R. Killian, Jr.,'26. Approximately 100 Alumni and their guests showed up at the Hotel 2400 and sat spellbound before Dr. Killian's amusing and instructive anecdotes about life at M.I.T. Dr. Killian's subject was "The Human Side of M.I.T.," and he pointed out the efforts being made by the Institute as well as by the students themselves to foster and maintain interest in the humanities, an essential ingredient to a well-integrated personality.

Among the distinguished guests were: Mrs. James R. Killian, Jr., the Very Reverend Edward B. Bunn, S.J., Rector of Georgetown University, the Reverend Dr. Francis E. Fox, School of Engineering and Architecture of Catholic University. Dr. Fox was representing the Most Reverend Bryan McEntegart, Rector of Catholic University. Also present were Dr. Vannevar Bush'16, President of Carnegie Institute of Washington, Dr. Mordecai Johnson, President of Howard University, Dr. Walter E. Hager, President of Wilson Teacher's College, and Dr. Nicholas Photias, President of the Graduate School of Economics and Business Science, Athens, Greece.

Dr. and Mrs. Killian and the other distinguished visitors mingled with the Alumni and their guests during the cocktail hour, after which all enjoyed a delectable dinner.

The officers of the Club for the coming season are: President – Nicholas P. Stathis'29; Secretary – Samuel H. Manian '22; Assistant Secretary – Merlyn J. Block '41; Assistant Secretary for Women – Mrs. Helen B. Perrin'24; Review Secretary – Edward J. Bacon, 9-46; Treasurer and Acting Vice-president – Joseph Y. Houghton'26. – EDWARD J. BACON, 9-46, *Review Secretary,* 2262 Hall Place, N.W., Washington, D.C.

CLASS NOTES

• 1891 •

It is with regret that we have to report the passing of four of our diminishing membership. They have passed on to their rewards leaving behind with us records of interesting and useful lives as outlined in the following extracts from their local press. "Westport, July 27, King W. Mansfield, 84, former first selectman here and trolley line official, died today in Norwalk after a long illness. A native of Melrose, Mass., Mansfield graduated from the Massachusetts Institute of Technology. In 1892 he moved to Norwalk where he became vice-president and general manager of the old Norwalk Area Trolley Lines, predecessor to the Connecticut Company in this area. He built and managed trolley line extensions to Darien, Roton Point, Dorlon's Point and Westport. He retired from the transportation field in 1908 and moved to Westport. Mansfield served as first selectman here from 1924 to 1932. He married Mrs. Lillian Sherwood Newkirk in 1937. She died in 1945. Mansfield traced his lineage back to the earliest settlers of Massachusetts. He leaves two nieces, Mrs. Lester Chisholm, of Edgewood, R.I., and Mrs. Mark Tressel of Mt. Lebanon, Pa."

"Miss Alice Bache Gould, 84, authority on the life of Christopher Columbus and descendant of a famed Massachusetts family, died early today in Valladolid, Spain. At the time of her death she had been working on research in Spanish archives which had occupied her for at least 40 years. Her scholarship was concerned not only with records of Columbus, but also with the history of Spanish conquests in America. She leaves four nephews in Boston. Cardinal Spellman once referred to Miss Gould as 'one of the world authorities on Christopher Columbus.' Professor Samuel Elliot Morison of Harvard, himself a recognized authority on Columbus, said that Miss Gould's research in Spain was 'the most important piece of original Columbian research yet done in the present century.' Miss Gould was the daughter of the noted astronomer, Benjamin Apthorp Gould, a celebrated figure in Victorian Boston who once was honored by a poem dedicated to him at a public banquet by Oliver Wendell Holmes. Her grandfather was Josiah Quincy, former mayor of Boston. Her mother was an aunt of Mark A. DeWolfe Howe. Miss Gould was graduated from Bryn Mawr College in 1887 and later took a degree as one of the first women members of Massachusetts Institute of Technology, Class of 1891. She did further graduate work at Radcliffe. Miss Gould taught for a while at Bryn Mawr. She made her home in Boston for intervals but most of her later years were spent in Spain."

"Edward W. Donn, Jr., 85, a pioneer in restoration architecture, died yesterday [August 9] at Garfield Hospital. A bachelor, he lived at 10 East Bradley Lane, Chevy Chase, Md. Mr. Donn was the architect for the restoration of historic Wakefield, George Washington's birthplace, the apothecary, and George Washington schoolhouse at Fredericksburg, Va., and Kenmore, the home of Washington's sister, Betty Lewis. He designed the Union Trust Building, Fifteenth and H Streets, N.W., and the Masonic Temple, Thirteenth and New York Avenue, N.W. In 1900, Mr. Donn became chief designer, chief architect's office of the Treasury Department. Three years later he became a partner in the firm of Wood and Deming. In 1912, the firm became known as Donn and Deming. Since 1923, Mr. Donn had practiced architecture alone with offices at 1920 Street, N.W. For some years he had been doing research into restoration. He was the author of *Monumental Work of the Georgian Period.* Mr. Donn also was a water-color painter and sculptor.

"Born in Washington, he was the son of Edward W. and Laura J. Gardner Donn. Both of his parents' families came to America in 1650. Mr. Donn was graduated from Massachusetts Institute of Technology in 1891 and studied at Cor-

nell University the next two years. Mr. Donn was a director of the Northern Market Company of the District of Columbia, a fellow of the American Institute of Architecture, and a member of the Architect's Institute of America, the American Federation of Arts and the Washington Society of Fine Arts. He was a member of the Chevy Chase Club, Metropolitan Club, Arts Club of Washington and the City Club of New York. He was formerly president of the Board of Examiners and Registrars of Architects of the District of Columbia. Survivors are a sister, Mrs. Alden Smoot, 3000 Tilden Street, N.W., and a niece, Mrs. E. Milton Dulin, Baltimore."

"Robert C. Spencer, 89, noted architect-artist and a former professor of architecture at Oklahoma A. and M. and the University of Florida, died last night in a local hospital. Born in Milwaukee and an 1886 graduate of the University of Wisconsin, he was a charter member of the Alpha Lambda chapter of Sigma Chi fraternity at the midwestern university. Following his graduation, Mr. Spencer went to Boston and entered the Massachusetts Institute of Technology where he continued to study architecture. He entered architectural work in Boston, but in 1891 he received the Rotch Traveling Scholarship in architecture which permitted him to travel and study in Europe for two years. In 1893 Mr. Spencer went to Chicago to supervise the design of the Chicago Public Library for a Boston firm. He stayed on in Chicago, and from 1905 to 1923 he was a member of the firm of Spencer and Powers. Designer of Oak Park, Ill., High School and many country homes, he practiced alone in Chicago from 1923 to 1928. During this time Mr. Spencer became widely known as an inventor and designer of home appliances, especially in the field of architectural hardware.

"Leaving his Chicago practice in 1928, he went to Stillwater, Okla., where he was an associate professor of architecture at the agricultural and mechanical college there for two years. Mr. Spencer, a fellow of the American Institute of Architects, joined the architectural and allied arts faculty at the University of Florida in 1930. As an outstanding artist, he painted murals for the federal government and the University of Florida after giving up his teaching duties in 1934. During this time Mr. Spencer also wrote articles for architectural magazines. Following the death of his wife, Ernestine, in 1942, he moved to Tucson to live with his daughter, Mrs. John W. Smith, of 4858 East Fort Lowell Road. Other survivors include another daughter, Miss Ernestine M. Spencer of Florida; a son, Charles E. Spencer, of Chicago; two granddaughters, Mrs. Herman Stein, of Zurich, Switzerland, and Mrs. Thomas Williamson, of Evanston, Ill.; and a great grandson, Robert Spencer Stein, of Evanston." — FRANK W. HOWARD, *Secretary*, c/o Bemis Associates, Inc., P. O. Box 147, Watertown, Mass.

• 1892 •

The following clipping from the Los Angeles *Times* will be of interest to classmates of '92. "The brothers Charles Sumner and Henry Mather Greene were born in the '70s in St. Louis, Mo. They studied architecture at Massachusetts Institute of Technology and after graduation and brief employment in drafting rooms of Boston architects they moved to California. The Greenes opened their office in Pasadena in the mid-'90s and practiced until after World War I. They drew some 500 plans, but their influence was evident everywhere. They made of the bungalow which they developed for California use, an American institution.

"Said the Greens, years later: 'We were able to do our best design when we could control the complete landscaping and decorating, as well as the house. This is the only possible way to achieve integration of all three.' "

The Secretary has little news to report other than that Harry Burnham has returned to his Boston quarters after a vacation in Vermont; Harry Carlson to his home in Newton Centre after a summer vacation in Gloucester, and Ober, Wells, and Chase are home for the fall season. The Secretary is busily engaged in the supervision of the extensions of water, sewer, and municipal light plants of the town of Wellesley, necessary to meet the demands due to the rapid growth of the town.

Hope all our class members will come forward with such contributions as they may be able to make to their Alumni Fund for the coming year of 1953-1954. — CHARLES E. FULLER, *Secretary*, Box 144, Wellesley 81, Mass.

• 1894 •

The Secretary will first wish to all readers, whether classmates or not, a merry Christmas and a happy New Year. Classmates are reminded that next June will bring our 60th anniversary of graduation, and that we plan a reunion of which more will be written in later months.

Few probably know that the emeritus professors at M.I.T. have luncheon reunions each spring and fall, thus being able to maintain old associations and friendships. For the November luncheon this year, our own George Owen is the "convener" — a pleasant title which covers both calling the meeting and presiding thereat. George assured the old guard that the President and Emeritus Treasurer Horace Ford would be on hand to tell us interesting things about the Technology of today. These meetings give the retired professors happy opportunities to get together in a most pleasant way, and to meet the new retirers as they join the ranks of emeriti. Owen, Harry Gardner, and Prescott are the '94 survivors.

Unfortunately, Gardner is unable to attend this meeting as physical disabilities have limited his activity. Like your Secretary, he has felt it wise to give up driving a car, and he has also recently sold his attractive camp at Milton, N.H., where he has spent many enjoyable summers in the past 30 years. He now lives at 213 Hunnewell Terrace, Newton. Walter Batson has removed to 220 Langley Road, Newton Centre. He would doubtless be glad to hear from any of his old friends in Course VI, or those whom he met in his long experience as a consulting engineer. Jim Kimberly has made his annual trek to his winter home at Tryon, N.C., after spending the summer at his other residence at Neenah, Wis. A recent note from F. A. Schiertz stated that he recently suffered from a fall. He wrote: "A few weeks ago, somehow or other, I tried (?) to fall down stairs but got away with a few bruises and broken glasses. Mighty sore and lame for a while, but fortunately no broken bones." Schiertz has an unusual vision defect, and says his heart also plays tricks on him, but he has had a pleasant summer and did not mind the heat. Since the death of his wife he has been rather lonely, and it would be fine if classmates could drop in to see him at 2055 Columbus Avenue, Roxbury.

After the call from George Sherman mentioned last month, your Secretary received a print of an old photograph of the Course X group taken in the forging laboratory about 1892. The fine old teacher, Mr. Lambirth, was in the forefront of the picture; Sherman himself is now the sole survivor of this interesting group of 12, a fact which proves that time takes its toll. Of course, all our Class are now past 80 in age, and our numbers are yearly diminishing.

One of the rewards of being a secretary is the occasional opportunity to meet sons or daughters of classmates. In July your Secretary spent two enjoyable days visiting Bob Phelan'50, son of our classmate, Joseph, who until his untimely death in the latter '20s was a much beloved M.I.T. professor in general chemistry. Robert is a true son of his father. On graduation from Course VII he began a career with food manufacturing companies, investigated gum supplies in Borneo, and on his return was assistant research director for the Beechnut Packing Company. While thus engaged he had as a hobby the breeding of laboratory animals, and this became so successful that he resigned his position and bought the Taconic Farms at Germantown, N.Y., where the writer visited him. Here he raises thousands of the special strains of white mice used for biological and medical research. To produce this "blooded stock" in perfect condition and in the actual thousands per month needed by laboratories is a highly scientific procedure. It was a most interesting and instructive visit, as well as a happy one with a family almost like one's own children and grandchildren. — SAMUEL C. PRESCOTT, *Secretary*, Room 16-317, M.I.T., Cambridge 39, Mass.

• 1895 •

Greetings! Your Secretary wishes all of you happiness during the coming Christmas season, and trusts you will look forward with hope for strength and guidance throughout the New Year. George A. Cutter returned from his summer home in Chatham, Mass., to his "winter quarters," 215 Village Avenue, Dedham, Mass. Robert W. Carr is still in San Antonio, Texas, but his address is 2140 Nacogcloches Road. We regretfully record the passing of several of our mates.

Harold Gerard Fitz, Course III, passed away on September 13, 1953, in New York City. He was born in Philadelphia, Pa., on June 19, 1874, and was educated at the William Penn Charter School in

Philadelphia, and at Technology in the Class of 1895. From 1895 to 1910 he was engaged in mining and civil engineering, contracting and building in Hartford, Conn., Boston, Mass., and Colorado, and within the vicinity of New York City; from 1910-1916 he was interested in export and merchandising, and was treasurer and general manager of Hutchison Scott Company, New York City. He entered the regular Army in 1916, and in 1917 became a captain of Field Artillery. During World War I he served as battery, battalion and regimental commander with the New York 77th Division Artillery. He served in France from early 1918 to the middle of 1919 and participated with his regiment in the Luneville-Baccarat, Oise, Aisne, and Meuse Argonne offensives. Colonel Fitz was a graduate of the School of Fire, the Field Artillery School, the Air Corps Tactical School, and the Command and the General Staff School. He was on the General Staff eligible list and served on the General Staff from 1924 to 1927, as chief of Military Intelligence in the Philippine Department. He was retired in 1934 for physical disability incident to the service. He is survived by his wife Leila B. Fitz of New York, N.Y. He was buried at Arlington National Cemetery, Fort Myer, Va., with full military service and honors. The Class extends its deepest sympathy to Mrs. Fitz.

Henry Atkinson Holdrege, Course VI, passed away on July 17, 1953, at his home, 5205 Burt Street, Omaha, Neb. From September, 1895 to May, 1896, he was assistant in physics at Tech. During the next seven years he was with the Chicago Telephone Company in operating and construction departments, and was division manager for two years prior to leaving the telephone service. During 1903 he managed the Citizens Gas and Electric Company, Council Bluffs, Iowa, and from 1904 to 1917 was general manager of the Omaha Electric Light and Power Company, Omaha, Neb. The following year he was consulting engineer for the Nebraska Power Company in Omaha. Then followed his connection as electrical engineer, U. S. Shipping Board Emergency Fleet Corporation, Wilmington, N.C. He retired from active business service about 1923, maintaining his home in Omaha. Harry was born in Boston and at the age of nine, moved to the West with his father, who was then the general manager of the Burlington Railroad. Surviving are two sons, one married daughter and a sister.

Your Secretary was intimately associated with Harry during school years. While we were fraternity men together, it was during the test drill, in our first year "military training," for honor Color Guards that we qualified from among some 40-odd contestants, and neither of us knew the both were in line, until we stood alone as victors. Then each asked the other: "How did we do it?" Remembering that the job was payless, it did carry at least some distinctive honor, but did relieve somewhat the scourge of some of the military requirements. Incident — never to be forgotten. — LUTHER K. YODER, *Secretary,* 69 Pleasant Street, Ayer, Mass.

• 1896 •

Mrs. Lawrence Sager telephoned this office on her return trip from Maine (their summer home), to reaffirm her gratitude for what had been done for her at the time of Lawrence's passing. She commented that during his last illness, his mental capacity was undamaged and gave evidence of his active interest in his affairs by attending to his professional obligations during the few weeks prior to his death even though bedridden.

We regret to announce the passing of our classmate Perry G. Howard. He died suddenly on Friday, September 25, at his home in Watertown. Mrs. Howard notified me immediately. I called the local classmates and also the florist for a suitable floral tribute from the Class. There were six of us who attended the funeral: Damon, Davis, Driscoll, Hedge, Rundlet, and Rockwell. Perry had been warned of a damaged heart and his physician informed Mrs. Perry that his death was due to over-doing even though unintentional. We shall all miss his quiet and controlled personality. He was devoted to his classmates as his attendance at class functions well indicated. Mrs. Howard's acknowledgement of the flowers and note of sympathy was indicative of her appreciation of our esteem of him. How we shall miss these outstanding and loyal classmates of ours.

We quote from a clipping: "Mr. Perry B. Howard, 79, of 31 Katherine Road, Watertown, retired assistant treasurer and Warren Brothers Company employee nearly 50 years, of Cambridge, passed away September 25, at his home. He was a 32nd degree Mason and Knight Templar, holding membership in Masonic groups in Watertown, Newtonville, Cambridge, and Boston. He was also a member of the Aleppo Temple of the Shrine in Boston. Mr. Howard, always interested in civic affairs of the town, was a town meeting member for 20 years. A resident of Watertown over 50 years, Mr. Howard was born in Townsend, Mass. He was graduated from M.I.T. in 1896 and from Northeastern Law School in 1909. Funeral services were held at the Bigelow Chapel, Mt. Auburn Cemetery, Monday afternoon, at 2:00 P.M., September 28. He leaves his wife, the former Ruth Dawes, and a sister, Mary E. Howard, of Watertown." He was a member of the Society of Sons of the Revolution and an active member of the Unitarian Men's Club of Watertown.

Mrs. Howard's letter reads as follows: "The beautiful flowers sent by the Class of '96 in loving remembrance of Perry were a great comfort to me and as Perry would have said, 'It is good to have friends.' With all his quiet ways he was intensely loyal to '96 and loved you all. I am trying to rise above the shock of my loss and to realize that God in his goodness took Perry as he did, while with me and with short suffering for him. With my deep gratitude to you for all your thoughts and kindness to me."

Your Secretaries would appreciate prompt notice of illness or death in order that this information may be passed on to the Class through The Review notes as soon as possible.

The following clipping regarding Bill Coolidge's continued successes was sent in by John Tilley. Incidentally, John keeps us in touch with the New York group. He was unable to accept an invitation to spend a week end with your Secretary in Boston but wished me to extend greetings to all local classmates. From the clipping: "Dr. W. D. Coolidge, scientist of the General Electric Research Laboratory at Schenectady, will receive the Henry Spenadel award at a scientific meeting of the First District Dental Society of the State of New York tonight at 8:00 at the Hotel Statler. The annual award was established in 1950 to encourage and honor individuals or organizations making significant contrbiutions to dentistry and to honor the late Dr. Henry Spenadel for his efforts on behalf of the society and of dentistry." Dr. Coolidge, whose research gave the world the modern lamp bulb and the x-ray tube, was honored on his 80th birthday on Thursday, October 22. Director Emeritus of General Electric Research Laboratory at Schenectady, Dr. Coolidge holds 83 patents for his inventions. He is former vice-president of research for General Electric. — JOHN A. ROCKWELL, *Secretary,* 24 Garden Street, Cambridge, Mass. FREDERICK W. DAMON, *Assistant Secretary,* Commander Hotel, Cambridge, Mass.

• 1897 •

From an item in the October 1 issue of the *Engineering News Record* we have learned of the death on September 24 of Rear Admiral Archibald L. Parsons (retired), Course I. He was chief of the Bureau of Yards and Docks from 1929 to 1933, and supervised many millions of dollars worth of naval constuction. On his retirement from the Navy in 1938 he joined the consulting engineering firm of Frederic R. Harris, Inc., of New York. We hope in a later issue to give further particulars of Admiral Parsons' life.

We very much regret that the foregoing is all that we have to offer for the class news column in this issue of The Review. Come on, you fellows, do something meritorious or notorious, send a full account of it to the Secretary and he will see that it is published in this column. — JOHN A. COLLINS, JR., *Secretary,* 20 Quincy Street, Lawrence, Mass.

• 1898 •

Tuesday, June 16, dawned bright and fair; and soon under the direction of Elliot Barker, classmates and guests attending the 55th Reunion of the Class were en route from Hotel Vendome, Boston, to Wellesley. Others drove to Wellesley from near-by homes. We were unusually favored by the weather: temperature, moderately warm and skies clear. This all served to show to advantage the buildings and campus of Babson Institute. We drove past the Richard Knight Auditorium and the Library Building. Guided by Mr. George W. Babson and Miss Marie Sullivan of the Babson organization, we reached the place of assemblage for the 55th, the spacious auditorium of Park Manor North. Although our classmate and host, Roger W. Babson was indisposed, he and Mrs. Babson had made all arrange-

ments and the efficient Babson organization carried on graciously and perfectly.

The day at Babson Park followed somewhat the pattern of the 50th, but was delightfully diversified. A symposium in the morning, conducted by Mr. George M. Rideout, Vice-president of Babson's Reports; luncheon in Park Manor; visits to the Map and the Newton Room in the afternoon; and finally a visit to the new Babson Estate: this gives a picture of the day's activities. And now for details.

President Edgerly called the morning meeting to order and recognized Dr. Edward B. Hinckley, President of Babson Institute. Dr. Hinckley, in a few well chosen remarks welcomed the Class to Babson Institute and then introduced Mr. Rideout. There were 64 in the audience, counting classmates and guests. We were especially pleased to note in the audience, Mr. Walter H. Gale'29, Secretary of M.I.T. and Mrs. Gale; and Dr. George R. Harrison, Dean of Science at M.I.T. and honorary member of the Class. Just before the symposium, Mrs. Grace K. Babson, speaking for herself and her husband, also welcomed the Class to Babson Institute.

The symposium under the able leadership of Mr. Rideout was remarkably significant. The discussions centered about a two-page "Partial List of New Industries, Concerning Which Twenty-four Babson Experts Are Constantly on the Watch. This List Is Prepared for Mr. Babson's Living 1898 M.I.T. Classmates." Twenty-four experts: twenty-four industries. Typical are: "(1) Indestructible plastics, including certain new chemical compounds which will be used for many hard goods including synthetic houses and automobiles; (2) The commercializing of isotopes. What is now being done for hospitals can be extended to numerous other uses; (3) The elimination of agricultural and other pests by electronic sprays. I am in touch with a friend who can kill bugs, fungus, etc., in an orange tree by spraying it with electronic waves rather than with chemicals; (4) Unused resources of the sea."

These and 20 other striking subjects of research were ably presented and discussed as far as time permitted. Gentle reader, if you are interested in the complete list, we will gladly furnish a copy.

Luncheon was served in Park Manor in the same room as on the occasion of the 50th, and was greatly enjoyed by all — especially the delicious biscuits. Mr. Hawks of the Babson organization and the Secretary counted 67 at the luncheon — an unusual number for a 55th Reunion.

There was no afternoon symposium scheduled, as at the 50th; and accordingly classmates and guests were able to visit in a leisurely fashion the Grant Relief Model of the United States, the so-called Map, and the Babson Newtoniana, including the Sir Isaac Newton Room. The Curator of the Great Babson Map, Miss Teresa Gubellini, and the Curator of Babson Newtoniana, Mr. Henry P. Macomber, were on hand; and their clear expositions added much to the enjoyment of the occasion. And how the classmates and friends did enjoy wandering about the spacious rooms and parlors of the Library Building chatting and visiting!

Promptly at 3:00 P.M. the company was driven to 250 Cliff Road, the home of Mr. and Mrs. Babson. The home is located in the former Peirce Estate, comprising 307 acres. Mrs. Babson received graciously at the entrance of a spacious central hall. The company in ones, twos and threes spread out comfortably in the hall and into a still more spacious adjoining sun-parlor. Roger was upstairs, resting under doctors orders, in his "cabinet de travail" and received his classmates (male) in twos and threes and later in a sizable group. Indisposed? This may have been true of the body, but mentally he was as eager and alert as ever, just brimming over with ideas for the Partial List, especially those numbers on which he was himself working. Presently the company assembled in a large parlor toward the south, and George Cottle showed some of the pictures taken during his 1952 trip to Spain. These and the running comments by George were at his usual high level, and were greatly enjoyed by all. Tea was served in another lovely room to the northeast, and adjoining the sun-porch. All too soon the delightful hour was over, and the company departed, enthusiastically thankful and appreciative of the kindness and hospitality of Mr. and Mrs. Babson.

When the Secretary began to write the class notes concerning this day at Babson Park, he found that he was lacking in certain data and unable to do justice to the occasion. Mr. and Mrs. Babson, appealed to, came to the rescue. George Cottle, with his usual helpfulness, drove the Secretary to Wellesley. We had a pleasant visit at 250 Cliff Road, and then Roger took us on a personally conducted tour of Babson's Reports and Babson Institute.

Mrs. Babson received us at 250 Cliff Road in a small parlor adjoining the spacious hall. The day outside being overcast and a bit chilly, there was a bright cozy fire in the fireplace. Soon Roger appeared, looking very fit, and explained his recovery: "The doctor finally decided that my trouble was a deficiency of protein in my diet. This had been somewhat on the vegetable side. So I started taking Knox's gelatin, dissolving a small package in a tumbler of water, and taking a tumbler-full every other day or twice a day as seemed helpful. In three weeks, recovery was complete." Continued Roger, "This protein acts on me like a cocktail" (Roger, himself, has never taken a cocktail though observing the effect on others) "and will help me if taken before interviews or any specially difficult task." Presently we left the home on the personally conducted trip of Babson's Reports and Babson Institute; and before leaving, George Cottle again graciously expressed to Mrs. Babson the appreciation of the Class for her memorable and wonderful hospitality on Tuesday, June 16.

"My colleges are my philanthropy and this is my business," remarked Roger, as we ascended the steps of the Babson's Reports Building. This is a three-story building with 150 employees. Roger secured for us catalogues of his three colleges: Babson Institute of Business Administration at Babson Park, Mass.; Webber College, Babson Park, Fla.; and Utopia College, Kansas. As Roger showed us the workings of the Babson's Reports organization, he frequently stopped and inquired about the families of employees. It was interesting to note their manifest great respect and well-nigh affectionate regard for our classmate. One astonishing bit of statistic sticks in our mind: Babson's Reports send out 18,000 letters of financial information *daily* to their clients!

Leaving Babson's Reports, Roger drove us to Babson Institute, stopping first at the Administration Building to pick up a sketch map of the Babson Institute campus. This covers some 250-odd acres. Remarked Roger, "I purchased 26 pieces of real estate, including 10 farms." As nearly as we can make out from the sketch, there are 26 buildings on the property, together with tennis courts and an extensive parking area. Enrollment in Babson Institute is approximately 500.

Again we visited the Library and the Newton Room. Again we inspected the actual fore-parlour from Newton's house in St. Martins Street, Leicester Fields, London, where he lived from 1710 to 1725. The woodwork was acquired by Mrs. Babson and brought across the sea and re-erected as a part of Babson Institute. Again we saw the famous pierced shutter, the scene of Newton's epoch-making discovery that a beam of white light refracted through a prism would yield the varied hues of the rainbow. Mr. Macomber, the Curator, brought out, and we actually handled, a first edition of Sir Isaac Newton's *Philosophie Naturalis Principia Mathematica,* published July 5, 1686, with corrections in Latin in Newton's own handwriting.

From the Newton Room we went to the Coleman Map Building, where the relief model of the United States is housed. "Climbing the stairs to the balcony carries us figuratively 700 miles above the earth. From there below us lies our country as it would look from a vantage point high in the upper stratosphere. The earth fades to a ball 165 feet in diameter. On the side nearest to us is the United States, stretching 65 feet from Maine to California and 45 feet from Michigan to Texas." (Quoted from a folder entitled, *Your Land and My Land.*)

Many at the 55th may have visited the site, adjoining the Coleman Building, of the projected world globe. If not, we did; and it is shaping up rapidly. The Boston *Herald* of May 24 described the project as follows: "Globe Costing $250,000 Planned at Babson Institute. In case you are interested, in two years you will be able to see the earth as it would look if you were floating 5,000 miles out in space. . . . For the Babson Institute of Business Administration announced yesterday that by 1955 work will have been completed on the world's biggest revolving globe. Every continent, every country, every significant topographical bump and more than 300 geographical points of interest will be depicted on the great steel planet. The globe will have a diameter of about 30 feet and will represent the world on a scale of 24 mils to the inch. (1 mil equals .001 inch.) It will weigh 21 tons; will be balanced on a six-ton shaft on a movable 10-ton carriage; and will be rotated by two one-horse-power electric motors in such a way as to represent ac-

curately the passage of day and night and the successive seasons. Floodlights and spotlights will simulate sunlight. Ultra violet rays (black light) will permit the use of special night effects. It will cost nearly $250,000 to build this globe. . . ."

From the world globe we went to the dining hall in Park Manor to the room where luncheon was served in June for the 55th, and where students were assembling for the evening meal. There is another dining room of equal size across the hall for the use of students, and adjoining this room is the kitchen. Then came an intimate human touch. By this time the dining hall was filled with students — a fine looking lot. Roger rose and immediately commanding attention introduced his two classmates "who had graduated with him 55 years ago from M.I.T." The boys applauded and we wished them good luck. Then going to the other dining room, Roger repeated the introduction with happy additional remarks, with the same happy and enthusiastic applause from the students. George and I will long remember this happy ending of another memorable day at Babson Park.

We received two books on the occasion of this visit, which, gentle reader, we will recommend. (We receive no commission for any sales.) 1. *A Descriptive Catalogue of the Grace K. Babson Collection of the Works of Sir Isaac Newton . . . in the Babson Institute Library, Babson Park, Mass.* Compiled by the Curator, Henry P. Macomber . . . printed by the Anthoensen Press in a limited edition of 750 copies and published by Herbert Reichner, 34 East 62nd Street, New York 21. Price $10.00 postpaid. The Grace K. Babson Collection of Newtoniana contains a total of 665 items, including the actual full-sized "fore-parlour," brought from London as above explained; and 470 books, 42 autograph manuscripts, 128 portraits, views and maps, 21 medals and coins, original copies of all of Newton's works, biographies of Newton, and 15 books, which belonged to Newton himself.

2. *Action and Reaction.* An autobiography of Roger W. Babson. Second Revised Edition published by Harper and Brothers. Price $4.00. This book is not only interesting, it is positively fascinating. We will cite two references. There is an illustration, adjoining page 182, under which is the caption, "The house on Seaver St., Wellesley Hills, Massachusetts, where I was 'given up for dead.' In the kitchen of this house was held the first stockholder's meeting of the Business Statistics Organization, Inc." That was in 1902 and the story of the sickness and the unbelievable and successful fight for recovery is told in Chapter X, pages 80-89. Roger gives full credit to his wife for her assistance in this successful fight and in the further development of his organizations.

We have a considerable amount of other interesting material concerning Mr. and Mrs. Babson and the day at Babson Park, but the above narration will doubtless serve to delineate the second day of the 55th Reunion of the Class. Next issue of The Review: the day at the Country Club. EDWARD S. CHAPIN, *Secretary,* 463 Commercial Street, Boston 13, Mass. ELLIOT R. BARKER, *Assistant Secretary,* 20 Lombard Road, Arlington, Mass.

• 1899 •

Our 55th Reunion comes next June. Plan now to attend and send any suggestions you may have to your Secretary, who will convey your ideas to the local committees on arrangements. It will do you good to see and talk to your classmates of long ago. So plan now.

Harve Reed Stuart, II, died after a long illness on August 14, 1953, according to a clipping from the Cleveland, Ohio, *Plain Dealer.* Harve, who was vice-president of the Yost Superior Company of Springfield, Ohio, worked with Dr. Lee DeForrest soon after he graduated from the Institute. During World War I he was director of design for the electrical equipment division of the Signal Corps. Later he became associated with the Robbins and Myers Company of Springfield, Ohio.

Mrs. Maurice F. Richardson, widow of our classmate who died in 1944, has presented to us the picture of our Class taken on the steps of the Natural History Building in 1899. This building is still standing on the corner of Berkeley and Boylston Streets (now a Boston branch of a New York City department store). This photograph was taken before graduation. With it were two reunion pictures — one taken in June, 1916, the other in June, 1929. These historic photos will be on display at our 55th Reunion next June. To my great surprise I can identify some individuals. Our grateful thanks to Mrs. Richardson.

"Critical mathematician, chemist of waters for mankind's health, sanitarian for wholesome milk, clean air and shellfish, teacher of the biology of environment, trusted consultant, author and counsellor" is the citation award given posthumously to Earle B. Phelps at the November meeting of the American Public Health Association.

Jim Ellery, known as "The Commodore" during undergraduate days, still maintains his love for the sea, for he lives on Cape Ann within sight of it, about where you make the turn in Annisquam toward the famed fishing town of Gloucester. He always was, and still is, very much interested in "Henry Georgism" and devotes a lot of time to it. For reading that will stimulate your mind he recommends *Progress and Poverty* by Henry George. For many years your Secretary had on his staff a man who was an ardent worker for the single tax movement, so it would appear that the theory is well worth your study. At all events you will probably agree that present taxation laws could be improved. I recommend, if you are interested in this subject, that you correspond with Jim. His address is 48 Dennison Street, Annisquam, Mass. — BURT R. RICKARDS, *Secretary,* 381 State Street, Albany 10, N.Y. MILES S. RICHMOND, *Assistant Secretary,* 201 Devonshire Street, Boston 10, Mass.

• 1900 •

The recently received report of the Technology Fund for 1953 shows that the Class of 1900, while not having been spectacular in its participation, has nothing to be ashamed of. The percentage of the Class contributing is only exceeded by that of the older Classes of 1877-1895. The average gift of our Class is exceeded by that of only nine of the 77 Classes. However, this record could be and should be improved. Only 35 per cent of the living members of known address contributed anything at all, and the average gift was only $35.10. Perhaps this is due, in part, to the fact that for some time we have had no Class Agent. Charlie Smith has now taken on this task again and, inspired by him, we shall look to see great improvement in the record of 1900 on the books of the Technology Fund.

Your Secretary spent a very pleasant hour at lunch with Tom Perry recently. Tom and his wife were on to celebrate their 50th wedding anniversary with their children. Their son, Thomas D. Perry, Jr., lives in Hingham and is connected with the business management of the Boston Symphony Orchestra. They have three children and eight grandchildren, all of whom gathered for the celebration. Tom lives in Moorestown, N.J. He has retired but continues to do some consulting work. He has become one of the leading authorities of the country on woodwork, particularly veneer wood. He still leads a very busy life, is interested in civic affairs, and is a member of the local Planning Board.

The Secretary and his wife spent a most happy evening with Walter Kattelle and his wife at their apartment in the Vendome. They were in this vicinity for several days, visiting old friends and familiar places. Walter came from Auburndale and his wife attended Lasell. We also had several telephone conversations during the summer with Zenas Briggs. We wish more of the Class would get in touch with the Secretary when they are in Boston.

We understand that Percy Ziegler is leaving Wellesley and is to live in an apartment in Cambridge. He recently retired from active management of the Cherry-Burrell Company but is to remain on the Board of Directors. He also will retain his connection with the Five Cents Savings Bank of Charlestown. Bob Blair has changed his address from Broad Brook, Conn., to South Woodstock, Conn. We missed Bob and his wife at our Reunion this year.

We have received word also of the death of Harry C. Hanson of Dorchester, Mass., on August 15. Hanson was with us for three years in Course II. — ELBERT G. ALLEN, *Secretary,* 11 Richfield Road, West Newton 65, Mass.

• 1901 •

It is my sad duty to report to those of you who have not already heard of it, the death of our President Al Higgins. I understand that he suffered two strokes recently and, two weeks after the second one, passed away on September 27 at his home in St. Petersburg. At his request, his ashes were buried in the Higgins family cemetery lot in Freeport, Me. When he retired as president of the Florida Power Corporation in 1950, I gave, in these notes, a comprehensive account of his life and activities up to that time. Much of this is repeated in the newspaper account of his death but it is unnecessary for me

to give it here. Since his retirement he was very active in many civic and charitable projects and was really one of Florida's most prominent citizens. I believe that an editorial in a Florida paper expresses what they thought of him. I will quote from it. ". . . Mr. Higgins was a man of vision. He had enormous faith in Florida's future. Far from merely telling others of his faith, he worked and fought for it. He was a builder in every sense of that word. It is good that the Higgins' name is preserved in the great Florida power plant at Booth Point. That mighty, throbbing producer of power is a fitting memorial for the human dynamo that was A. W. Higgins."

Al's passing will leave a hole in our Class which will be difficult to fill. He gave a great deal of hard, efficient effort for the Class and for Technology as an institution. Those of us who worked with him as officials of the Class have an especially keen sense of the loss. I, personally, shall miss his guiding hand and his helpful advice. We shall all miss him but he has left memories which will be with us for a long time. A letter has been sent to Mrs. Higgins expressing the sympathy of the Class.

I wrote to Joe Evans, who as Vice-president now becomes President, telling him some of the details of Al's death. Here is his reply. "Dear Ted, Secretary Class '01, M.I.T., Thanks for your nice letter giving more details of the death of Al Higgins. It surely was a big surprise to learn that our beloved Class President had passed on. I thought when I saw him at our last reunion that he was in the best of health and would live for years to come. He had led a successful and happy life. It was a big accomplishment to have been elected president of the Florida Power Corporation which was proof of his ability. Since I happen to be the Class Vice-president it falls upon me to be our Class President until another class meeting is held in the future. It will be a big task to take up the duties and try to follow in the footsteps of the late Al Higgins as Class President, but I'll try to do a good job at it. I want each class member to know that I appreciate this honor and trust all will feel free to give me suggestions at any time. Best wishes to you and each member of our Class'01, M.I.T. I remain cordially, Jos. D. Evans."

From the class letter replies of last spring – Charlie Tufts, who gives his address as Box 1061, Grand Central Annex, N.Y., writes: "A P.O. Box makes a mighty poor residence but we're on the wing so much that it seems the best address. I am so busy doing nothing that I wonder how I ever got anything done when I really had a job." Archibald Klieves of Wheeling, W. Va., says: "Retired. Commissioner on Wheeling Housing Authority. The time that I have after tending to many miscellaneous duties I use to amuse myself doing small machine work. I am building a small steam engine." Langdon Pearse, I: "Still active as sanitary engineer on the Sanitary District of Chicago – on administrative work, special reports, acquiring right of way, permits, and so on. The Sanitary District is selling 250 tons per day of heat-dried activated sludge in carload lots in the fertilizer market and exploring its value as a source of Vitamin B12." He also reports that Frank W. Puckey has retired as an architect.

Charles Danforth, of Youngstown, Ohio, writes: "I have by no means retired. On the contrary I work 65 hours per week. Am still carrying on Diamond recovery. We are by far the largest company doing this work." From Anthony Peters, Westwood, Mass.: "Retired 1943. Plenty of odd jobs around the place to keep me busy. Have just refinished an old bannister mirror. Designed and cut a stencil for the upper section – a border of grape leaves with a basket of fruit in the center." Willard Dow sent me a clipping, a part of which I quote: "A couple of years ago a friend was somewhat embarrassed after losing five consecutive games of squash to Willard Dow. 'That was a nice birthday present,' concluded Dow happily. 'Birthday present? How old are you?' 'Seventy' was the cheerful reply." More class news next month. – THEODORE H. TAFT, *Secretary*, Box 124, East Jaffrey, N.H. WILLARD W. DOW, *Assistant Secretary*, 287 Oakland Street, Wellesley Hills 82, Mass.

• 1902 •

News has been received through a press clipping of the death of our classmate, Frederick N. Fowler, Course I, who died in Clinton, Mass., on September 19, 1953. He had followed engineering all his life designing, promoting and constructing hydro-electric power plants in Massachusetts and Connecticut. For the past 35 years he was consulting engineer for the Boston Edison Company in location and acquisition of rights of way for high tension power lines. Fowler was an ardent Mason and was a member of many Masonic and allied orders. He leaves besides his wife, Abbie M. (Smith) Fowler, a sister, brother, and several nieces and nephews.

Word has been received through the Alumni Office of the death of Harry L. Strand, Course IV, on October 5, 1953. Unfortunately, our class records give no information as to his activities through the years.

A picture of William R. Lewis recently appeared in the Foxboro *Reporter* with an affectionate account of the celebration of his 75th birthday anniversary by his friends. Lewis has been a town assessor for the past 11 years and has also served his town as a member of the School Committee, selectman, water commissioner and town engineer. Lewis certainly appears alert and happy in his picture.

Roger Greeley has recently been nominated for a two-year term as moderator of the American Unitarian Association, the highest lay position in the denomination. He will be elected at the next May meeting. He has long been very active in Unitarian affairs having been president of the Laymen's League, member of the Star Island Corporation, clerk of the *Christian Register* magazine board and an active member of the First Church in Lexington. His son, Dana MacLean Greeley, is minister of the famous Arlington Street Unitarian Church here in Boston. It will be recalled that another classmate, MacNaughton, has also served as moderator of the Unitarian Association.

Arthur H. Nickerson is now living at 9 Marlborough Street, Boston. He has been retired from active work and so he has returned to his home area. The address of your Secretary has also been changed. – BURTON G. PHILBRICK, *Secretary*, 18 Ocean Avenue, Salem, Mass.

• 1904 •

All readers of these notes should have received the class letter which went out in September and should also have read the November class notes in The Review. We regret that many of you have not returned the reply cards inclosed in the class letter but on the other hand we are encouraged by those which have been received. It looks as though we would have over 100, including wives, at the Reunion next June. Of the replies to date the indication is that over half the men will bring their wives, so the ladies need not be lonesome. Quite a number of the men who feel at present that they cannot attend, refer to physical infirmities as the reason. This is probably to be expected in an age group such as ours, but we are none the less sorry for the invalids and hope they will be feeling better next June. They should at least send messages to be read at the class dinner. We give below the list of those who, up to October 19 (deadline for December notes), had expressed a hope that they would be able to attend the Reunion at Oyster Harbors next June. Others may have sent cards since. A few tell us they may have to drop out, but we are confident that their places will be taken by some of you whose replies have not been received by the above date. If you will look over the list you will see the name of some old buddy you haven't seen for years. Plan to join him at Oyster Harbors June 11-June 14, 1954.

The following hope to come and bring their wives: B. Blum, I, W. B. Boggs, III, L. H. G. Bouscaren, VI, A. L. Coune, III, G. A. Curtis, I, F. H. Davis, I, M. W. Dole, II, W. L. Doten, II, A. C. Downes, V, M. H. Goldstein, IV, C. R. Hayward, III, E. O. Hiller, II, E. A. Holbrook, III, A. M. Holcombe, II, C. L. Homer, I. A. Y. Hoy, XIII, R. O. Ingram, II, G. K. Kaiser, VI, H. S. Kendall, I, W. R. Kremer, VI, C. Lang, I, A. H. Langley I, S. J. Martenet V, F. W. Milliken, I, H. H. Needham, VIII, L. Newell, XI, P. M. Paine XII, G. P. Palmer, I, R. Palmer, VI, R. M. Phinney, VI, A. P. Porter, I, G. M. Proudfoot, VI, B. A. Richardson, IV, E. F. Rockwood, II, H. T. Rollins, II, E. H. Russell, I, F. J. Severy, I, H. W. Stevens, VI, O. G. Thurlow, I, W. G. H. Whitaker, VI, A. C. Willard, X, C. B. Williams, VI.

The following hope to be present, but according to our information will come alone: D. F. Comstock, VIII, J. E. Cunningham, I, C. H. Drew, II, D. Elwell, VI, F. W. Farrell, V, O. D. Fellows, III, C. Y. Ferris, II, H. H. Groves, I, R. K. Hale, I, J. A. Haraden, VI, C. R. Haynes, X, H. T. Kalmus, VIII, H. Kramer, I, M. G. Magnuson, III, Mrs. Katherine Dexter McCormick, VII, H. Moore, X, A. W. Munster, II, E. F. Parker, IX, K. E. Peiler, VI, H. K. Richardson, VIII, G. C. Riddell, III, M. H. Schwartz, IX, S. Skowronski, V, A. D. Smith, V, R. B. Sosman, VIII, D. Sutton, I, P. S. Sweetser, VI.

One interesting fact from the above list is that five of the 10 living members of Course VIII are hoping to come to the Reunion. This is a goal for other Courses to shoot at. We hoped the class letter and reply cards would produce some interesting items of news but little has come through. A note from Holcombe states he has contacted several classmates some of whom are planning to join the reunion group next June, some are uncertain and some cannot come. He enclosed a newspaper clipping regarding Preston Smith, and we also received a note from Pres from his home in Jacksonville Beach, Fla. He is afraid it is doubtful that he will get to the Reunion. (There is still plenty of time to change your mind, Pres.) The news item tells of a 72nd birthday party given for Preston Morris Smith by a group of sports fans interested in the athletic prowess of the local high school which has been stimulated by Smith. The final paragraph of the write-up is as follows: "Mr. Smith, who is so well known to the students and residents who attend the Fletcher games, served in the U. S. Intelligence Department during World War II. Much of that time was spent abroad in Spain, France, and Italy, and Mr. Smith can tell some hair-raising tales of his adventures when the spirit moves him. However, his favorite topic is sports."

Since we have no obituaries to report this month, we will close these notes on the sad subject, money, discussed in the recent letter you received from Gus Bouscaren about our 50-year class gift to the Alumni Fund. This is something every member of the Class can participate in whether he attends the Reunion or not. In fact you who can't come should have more spare cash for the Fund than those who attend. If you are one of those who watch income tax deductions, it might be advantageous to send a check now and another after the first of January. Think it over. — *Acting Secretaries:* EUGENE H. RUSSELL, JR., 82 Devonshire Street, Boston 9, Mass. CARLE R. HAYWARD, Room 35-304, M.I.T. Cambridge, Mass.

• 1905 •

The month of September brought several 1905 men back to New England and to class headquarters at 274 Franklin Street, Boston. Jack Flynn, II, back from Argentina, the first time in 15 years, caught me by surprise and had to introduce himself. Jack is "jolly and fat," almost roly-poly, has retained much of his hair, appears younger than his years. He was in Boston for a stay of a couple of weeks to get a thorough going-over at the Lahey Clinic, "just in case." He promised to give me a date for an impromptu class luncheon as soon as he got his dates at the Clinic straightened out, but something happened and I cannot give you the findings. As previously reported, Jack retired from Annco five years ago, since which time he has been in several businesses of his own, the principal one being the manufacture of metal containers, barrels, and so on.

Ben Lindsly, III, dropped in a couple of times. He had been in New Hampshire some little time this summer, partly on pleasure. He also, as previously reported, retired last year from S.E.C. and is in business for himself, traveling quite a bit on business in the larger financial centers. Ben looked just grand, not a bit older or less active than when I saw him in Philadelphia about 10 years ago. He and Mrs. Lindsly are still living in their rustic home in Falls Church, Va.

While spending a vacation at my summer place at Lake Winnepesaukee, N.H., the latter part of September, I had a short visit from Bill Spalding, III, and Mrs. Spalding. Bill, now in real retirement, had spent the night before with Grove Marcy at his summer home at Franklin, N.H., and was en route to visit his brother at Conway, N.H. What I said about Ben Lindsly retaining his youthful looks and spirit holds here as Bill looked "in the pink." He is apparently taking some time to decide where next to settle, but there's a big question in my mind about the "real" retirement, above. Carleton Manter, IV, whom I had reported several years ago as retired from his business (architecture) on account of his health, called me up from his office in Taunton, Mass., recently to tell me about a job he thought I would be interested in, and that he had sufficiently recovered so as to be again active in a business sense.

Andy Fisher reports the arrival of another grandson, the parents being Reverend and Mrs. Armstrong Hunter of Mansfield, Mass. Mr. Hunter is resource secretary of the Missions Council of the Congregational Christian Churches, while Mrs. Hunter (Edith Fisher), well, we've been telling you about Edith and her accomplishments for 15 years. She is perhaps best known at the present as the mother of a beautiful family of three and a nationally known authority on, and writer of, religious education books (Beacon Press-Unitarian). Andy comes up with a good suggestion, which he thinks will not only bring us closer together through knowing more of each other's doings, but will be helpful in the matter of our 50-year Program (not financial). He suggests that each member of the Class write an original essay along the lines of a freshman theme on the subject, "What I Would Say If I Were Class Orator in 1955." Wonderful. Andy has agreed to collate these, pass along matter in the nature of class news to me, and list for future reference ideas which would be helpful to those in charge of the 50-Year Program (not financial).

On the subject of the 50-Year Program — financial — I have to report only stagnation since the death of Chairman Donald, but must accept part of the responsibility as my doctor has insisted that if I must continue in business (and I must) that I slacken on outside matters and "take it awful easy." Ever hear that? The other reason is that in spite of many attempts long before, and several times since, Donald's death, I have been unable to find any leadership at expected points. I believe that before you read these notes a get-together of some of the key men in Boston and vicinity will have started our financial program rolling again.

We learn from Mrs. Blakeman that her husband, William H. Blakeman, XIII, died on May 27, 1953. The end came suddenly after five years of illness due to a coronary thrombosis in 1948. Theodore Green, I, of East Aurora, N.Y., died on August 2, 1953. Ted had been president of the Hydro Construction Company of Buffalo for 25 years and was active until last winter. He directed his firm's construction of grain elevators and large warehouses in Buffalo, several Western New York Schools, including the $500,000 Southside Elementary School in East Aurora, and at his retirement was completing the $1,400,000 Depew High School and the $600,000 Charlotte Avenue Elementary School in Hamburg, N.Y. He was a former member of the East Aurora Village Board, a member of the Buffalo Athletic Club, Buffalo Rotary Club, New York State Professional Engineering Society, and the American Society of Civil Engineers. Besides his wife he left one son, two daughters, and five grandchildren. A letter from Mrs. Green in response to my attempt to express class appreciation of Ted and sympathy for the family states that Ted never knew how ill he was, and up to the end was planning to go to his 50th Reunion.

Francis E. Drake, II, insists that news of his death received since last writing is exaggerated, as he is very much alive and working every day. Let's let Frank tell it: "I am well, healthy and still going strong, although I did have a bad time of it for a few weeks this summer. I have had Tic'Dou'Lou'Reux' off and on for 10 years. Five years ago I had a minor operation to correct the trouble but was warned at that time that five years was probably the extent of the correction and that sooner or later I'd have to have a major operation. It finally had to come, and on August 11 last I was operated on by the most prominent brain surgeon in Canada and the U.S.A., Dr. McKenzie, in the Toronto General Hospital. I was up and around in 24 hours and out of the hospital in 10 days and back to work in the office in New York on September 3. So you see from that the report of last fall was grossly misstated. Why the operation in Toronto instead of New York or Boston? I have a son-in-law who is a prominent physician in Toronto and knows all of the best in the medical world everywhere. I also have an older daughter and her three children there, so any excuse is a good excuse to get to Toronto, and Mrs. Drake and I use the slightest excuse to do so.

"We also have a son and his family in Rochester, N.Y. He is assistant to the vice-president, Rochester Gas and Electric Company, is a graduate of Columbia and has his Professional Engineering certificate in New York and Pennsylvania. He has two sons, one of whom is Francis Edward, 3d, so F.E.D. may, we hope, be perpetuated. We also have our younger daughter married to a lawyer (graduate of Harvard) and member of a law firm here in New York. Until last week they lived near us here in Pelham, but they now live in Lincoln, Mass. . . . We have two children, a boy and a girl. Thus we have seven grandchildren, two in Lincoln, Mass., two in Rochester, N.Y., and three in Toronto, Ontario. I do hope now that our daughter is near Boston we can make a trip some

week end and I can grab a part of a business day, drop in at 274 and say 'hello' at least.

"As to retirement, family, and so on, family I have just given you, including Mrs. Drake who has been my staunch supporter through thick and thin since college days. We are both still going strong. As to retirement, heaven forbid, I have seen too much of it in my own family and elsewhere. A man under those conditions is usually unhappy and a nuisance to himself and family. I am probably working harder now than I have at any time in my life, and am getting more fun out of it because it is my own business, and my children are now well on their ways, so if I make a dollar, it is all to the good – if I don't, well 'C'est la guerre.' I travel some 10 to 15,000 miles a year, mostly by air, and two years ago this fall flew to England and back. Was there a week only, but I started up the first Butane-Air Plant in Utility Service in the British Isles at Whitland, Wales. And so it goes. It's fun, not too remunerative, but interesting and keeps me on a par with our children, and out of mischief." Frank's address in New York is Drake and Townsend, 11 West 42nd Street, "just opposite the Library." – FRED W. GOLDTHWAIT, *Secretary*, 274 Franklin Street, Boston, Mass.

• 1906 •

Apologies to John M. Morris, VI, for omitting his most interesting August letter from the November notes. Your reporter's face is a deep crimson, more so because of the kind words included in the first paragraph: "After reading your excellent notes on '06 in the July Tech Review I feel that I should join with classmate Berliner in offering an appreciation of your fine work along this line for many years past. This is the part of The Review that I particularly look forward to reading as there are none of our Class here (Salt Lake City), and it serves as a point of contact. I believe I am correct in stating that Frank, Clifford, Hubbell, Abbott, .Sherman, Gibbons and Stone (to mention a few) were all living in the Tech Chambers during the first two years of its existence. I still recall many of the interesting and pleasant experiences we had together.

"I retired from the Army in 1946 (Colonel, Chemical Corps), and since that time I have played around with music (composing and publishing) and have traveled to Italy, France, and Spain this year. Previously I made a South American trip to Brazil, Argentine, and other countries. Those trips and one through the Maritime Provinces, and one to Honolulu, pretty well cover my travels. I don't know why I am telling you these details except that I remember reading recently in one of your reports a brief comment about a classmate with the remark 'that is all we know about him.' I don't believe I should look ahead so far as three years, but if I am still available, I hope to attend our 50th anniversary in 1956. Perhaps one before that."

The Abbott mentioned was probably William G., VI, living in Wilton, N.H., A. B. Sherman, VI, now of Rochester, N.Y.; Henry S. Hubbell, II, now at Conway, N.H.; Michael J. Gibbons, VI, now in Dayton, Ohio, and Lawrence E. Stone, VI, now of Sarasota, Fla. Walter B. Clifford, II, and Edwin D. Frank, II, are deceased.

In preparing these notes for The Review, news items seem to be unusually scarce this month, so it was fortunate that I had John Morris's letter. Will try and do better next month. In the meantime I hope you will be doing something about your participation in the Alumni Fund and be thinking about your part in the 50th Reunion now only two and one-half years away. – JAMES W. KIDDER, *Secretary*, 215 Crosby Street, Arlington, 74, Mass. EDWARD B. ROWE, *Assistant Secretary*, 11 Cushing Road, Wellesley Hills, 82, Mass.

• 1907 •

An event quite unique in the history of our Class took place on Sunday, October 4, 1953, when our classmate, Clarence Howe, Minister of Trade and Commerce and also Minister of Defense for Canada, was host to 31 of our fellows at dinner at the Algonquin Club in Boston. This was the culmination of about a year's effort by your Secretary to secure a date when Clarence, in his tremendously busy official life, could arrange a time to meet with us. In fact, we were fortunate to actually have Clarence on hand, because after the date had been agreed upon, and notices regarding it had been mailed to 74 men, it became necessary for him to go to Geneva, Switzerland, to attend a conference relating to international trade, and he did not arrive back in the United States until October 2.

Hence on October 4, escorted by Alexander Macomber, our Class President, who as a member of the Algonquin Club made it possible for our gathering to be held there, Clarence appeared at the Club shortly before 2:00 P.M., and cordial and gay indeed were the greetings exchanged between him and his classmates, many of whom he had not seen since 1907. He appeared to be in the best of health and spirits, and it was evident that during the two and a half hours when our '07 "family" was together – no reporters, no outsiders – he was having a first-rate time. After a fine dinner served by the Club staff, Macomber gave a few words of greeting and then called upon Clarence to preside. As Secretary, I made a few remarks regarding the doings of some of our men who were not present and transmitted to Clarence words of welcome from them. Then our host related in a simple and humble, withal most interesting, way, some of the high lights of his career from the time in 1907-1908 when he was an assistant in civil engineering at M.I.T. to the present when, although he himself did not say so, he is one of the most influential men in the world in international affairs. He told of his enjoyment of public life, even though such a career is so taxing on a man's physical and mental strength and so demanding on his time. He remarked that various people express to him their desire to retire and travel. He said that he hoped that some day he might retire and *not* travel, adding the comment that he had been across the Atlantic Ocean as many as four times since last June.

As he concluded his remarks, he expressed his desire that each man in turn, as we were seated around one large table, might stand and tell briefly of his present and past work and activities. This procedure proved to be very interesting but, unfortunately, time ran out before even half of the men had had opportunity to speak. As this most delightful gathering broke up at about 5:00 P.M., Phil Walker took many pictures of various groups, which we shall hope to show at some future class meeting. The following men were present: Bob Albro from Springfield, Mass., Carl Bragdon from Larchmont, N.Y., Bill Coffin from Duxbury, Mass., George Crane from Milton, Mass., Allan Cullimore from South Orange, N.J., Leverett Cutten from Allentown, Pa., Fred Dempwolf from York, Pa., Ellis Doucette from North Wilmington, Mass., Bill Egan from Wakefield, Mass., Louis Freedman from New York City, Tom Gould from Newtonville, Mass., Hud Hastings from New Haven, Conn., Bebe Hosmer from Concord, Mass., Clarence Howe from Ottawa, Canada, Ralph Hudson from Newton Center, Mass., Roy Lindsay from Buffalo, N.Y., Milton MacGregor from Brewster, Mass., Alexander Macomber of Boston, Herman Mahr of Washington, D.C., Harry Moody from Lexington, Mass., Tucky Noyes from Augusta, Me., Bob Rand from Boston, Kelly Richards from Needham, Mass., Don Robbins from Barrington, R.I., Gilbert Small from Wayland, Mass., Oscar Starkweather from Needham, Mass., Albert Stevenson from Ridgewood, N.J., Stanley Wires from Wellesley Hills, Mass., Edbert Wilson from Waterville, Me., and Gene Banfield, Phil Walker, and Bryant Nichols from Whitinsville, Mass.

Dick Ashenden, who is one of the standbys for '07 dinners and reunions, was unable to attend the Howe party. He had a major spinal operation last May, being in the hospital on his back for eight weeks. He is getting along well but was not sufficiently recovered to journey from his summer place at Whitefield, N.H., to Boston. In a letter last September Dick told me of the death some time last spring of Stanley Moore, '07. After leaving Tech, Dick was chief of a survey party for the Boston and Albany Railroad, and Stanley was instrument man. They roomed together in Pittsfield, Mass., and Chatham, N.Y., for nearly two years. Eventually Stanley left the railroad and established a business of his own in Ortega, Fla., where he died from cancer. He is survived by his widow, one son, and three daughters.

In our May, 1953, notes we gave an address for Laurence R. Davis as Antioch, Calif. From a letter from him dated October 8, I have learned that this is now incorrect. He is back at former address 120 17th Street, Paso Robles, Calif. From his letter I quote: "I am in far too good shape physically to think of retiring so I went to work in the Power Division of Bechtel Corporation in a humble capacity, and I have found helping to build modern big steam turbine plants a most fascinating business from every angle. When the Contra Costa Plant near Antioch was nearly finished, I was transferred to a place near Paso Robles to help build another 250,000 KW plant at Morro Bay, practically on the open Pacific. It has been

learned by sad experience that there are dry years as well as wet ones, and that if power is to be supplied steadily day in and day out, these modern steam power plants are necessary. T.V.A. in Tennessee is learning this lesson, and two dry years in the Northwest made tough sledding there. Hereafter in northern California dry years will not mean short shifts or short work weeks, because the juice will be there just the same.

"One reason why we went to Antioch was that my son, Laurence, Jr., was entering the engineering school in University of California at Berkeley, and my wife and I wanted to be a little nearer to him. A delusion on our part because he is so busy that we might as well be 200 miles away as 40. He is taking mining but has no love for lonely places, and I doubt very much if he follows that profession. I am looking forward to 1957 and if in shape, plan to make that reunion." (Note, Laurence, and others, that our next reunion is to be in 1955. – Secretary)

Leon L. Allen, who for many years has been town accountant in Brookline, Mass., retired on November 30 – mandatory at age 70. – BRYANT NICHOLS, *Secretary,* 23 Leland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary,* 18 Summit Street, Whitinsville, Mass.

• 1908 •

One of the pleasant by-products of our 45th Reunion were the many letters from classmates. The following extracts from some of them will be of interest. Charlie Steese wrote from Harrison, Ark.: "... you may count me to be present at Snow Inn in Harwich Port for the entire session, as well as to return to Tech for the Alumni Day celebration. My son, who graduated in science at the California Institute of Technology in 1951, is now at M.I.T. as a candidate for his Ph.D. in science also. I may, therefore, come to Cambridge a few days earlier to visit with Charles, Jr., before going to the Cape.

"There is not much news about me for the class letter. I was in Boston and New York in August as a delegate to the Disabled American Veteran Convention and the American Legion Convention respectively. Spent November on the desert in Nevada checking the onset of arthritis and shall go to Florida in a few weeks to get warm after spending a few days along the east coast with Charles, Jr., during his mid-year vacation. Expect to stay in the Tampa district if it is warm; otherwise, I shall continue south to Key West if necessary to find a comfortable place."

John Tabor from Houston, Texas: "I received your 'red circular' of January 16 pertaining to the 45th Reunion of our Class. I notice that my friend, Henry R. Sewell, is on the Committee. Please remember me to him. Tell him that an old friend and classmate, J. W. Maxwell, came through Houston about two years ago with his grown son, at which time we had a long visit. He now lives in El Paso, after long sojourns in Mexico and South America, serving as mining engineer in these countries.

"As your letter suggested, I am enclosing check for $5.00 to add to the 'badly bent treasury.' I hope to get up to Boston next June if I can possibly arrange it. So send me all the reunion literature, so that my present enthusiasm may not fade. . . ."

Jesse Maxwell from El Paso, Texas: "I very much doubt that I shall be able to be at the Reunion, as it is a 'fur piece' and I'm only a 'pensioner' now. However, I have two daughters in the east, and my wife is going to visit them this spring, and I may not be able to talk her out of not taking me, in which case I may see you. I'm sure that I wouldn't know any of you, except Hienie Sewell, whom I saw a couple of years ago when he was on his way to the West Coast. Well, if worst comes to worst, I'll be seeing you in June, but don't buy any supplies for me on the strength of this threat. Anyway, I hope that you have a good party, and if I'm not there, 'hist' one or two in memoriam."

Gus Weiler from West Chester, Pa., to George Belcher, our Class Agent: "I note your retirement from United Shoe Machinery Corporation with some six Saturday weeks ahead of you. I haven't retired, but I took a month off during the early part of last year and made a tour of the Panama Canal. You will recall that I worked on the job in 1909, and my return after an absence of more than 42 years seemed to have rated me a great many courtesies on the part of Canal officials which I deeply appreciate, including a trip through the locks and canal in a Panama Canal boat.

"One thing which had me quite upset was reading in the papers a couple of years ago the fact that the Panama government had compelled the U.S. government to relinquish possession of the Rio Hato airfield about 75 miles north of Panama on the Pan-American Highway. I got the correct answers from official sources on my visit. It seems that the Navy had about decided to give up the airfield when they were suddenly faced with a demand for excessive rentals for renewal lease, now that the war was over, plus a lot of other impossible demands on the part of the Panamanian government. The Panamanian government did not know this decision had been reached on the part of the U.S. government.

"Orders were given by U.S. authorities to vacate the air post in 48 hours and put all personnel and equipment back to the Canal Zone, American territory. This was done and there was not as much as a piece of pipe left sticking out of the ground at the airbase when I saw it. This thew several thousand natives out of employment at that point, and . . . started a severe depression in the Republic of Panama from which they haven't yet recovered. After this action by the U.S. government, the Panama government started to crawl and asked to have it reviewed, that they would withdraw their demands, and so on, but it was too late. . . .

"The U.S. government office told me 'we have to deal with a very unstable government in Panama.' It is reported that a year ago last May they had three presidents in one day, and one of these lasted 25 minutes. In fact, at the time of my visit I observed the jail in Panama City was picketed by a lot of women bearing signs in Spanish, 'Liberate our political prisoner,' one of the former presidents then in the jug, because he shot and killed two policemen during a revolution. The pickets were quite pleased that we took pictures of them. Some country."

Waldo Morrison from Stowe, Vt.: "Thank you for writing me the note. I am going to try to make it. Haven't been to a five-year reunion since the 35th. I pretend I am retired but when there is trouble at the office, I am like an old fire department horse who scents the battle from afar and gallops to the fire. In my case it means a gallop of 350 from Stowe, Vt., where I do surveying. That is where I survey my acres and woods while seated comfortably on the terrace or in the shade of the old apple tree. When the snow came in December, bringing cheer to the ski lodges and a year-end dividend, we decided to stay on right through the Arctic night. We did all right on skis and with chains on the jeep getting up and down Luce Hill. The jeep came through all right but I have a twisted knee which I will demonstrate in the June warmth of Cape Cod."

Mat Porosky from Moline, Ill.: ". . . I am sorry I shall not be able to attend our 45th Reunion. I will have to go to Boston on June 20 for a Board meeting on the 23rd, and two trips within about 10 days would be too much of a load. I would, therefore, ask that you kindly give all the fellows my kindest regards and best wishes, and I shall be thinking of you at that reunion. I usually arrive in Boston the Wednesday before the third Friday of each month, and if the class dinners are held on Wednesday or Thursday of that week, I shall make every effort to be a regular attendant. I did enjoy the April meeting."

From Jim McGowan, Jr., of Camden, N.J.: "Thanks for your note of May 29. I am sorry that 'due to circumstances beyond my control' I shall not be able to attend the 45th Reunion. I had been looking forward to it since it was first suggested, but I just cannot make it. I expect to attend the Corporation meeting and commencement on Friday next and then fly back to Philadelphia on the afternoon express flight. The retirement that was talked about has not been realized. I have dropped out of the President's functions but am continuing on a pretty full time basis as chairman. However, that situation will not last forever, and that will give me a chance to do things that I have wanted to do for a long time. Please give my best regards to any of our classmates who may still remember me."

From George Whittle at Berkeley, Calif.: "Having had such a wonderful time five years ago at our 40th Reunion, the only one I had ever attended, I regret that I am unable to attend our 45th next week. I was in Liberia this spring helping that government through the U. S. Point Four program in some special bridge matters connected with their proposed highway system. It was an interesting experience; much of the reconnaissance work had to be done from the air because of the deep jungle, but my two months there were long enough considering the hot humid climate and the hazards of infection, and so on, but I got away without having had a single sick day.

"On the return I was in Portugal, Spain, France, and England, about two

weeks and left London expecting to spend May 8th in Boston and at the Institute in Cambridge, but both Boston and New York were fogged in and the B.O.A.C. plane had to go to Montreal and wait, so I had to pass up Boston, much to my sorrow. But this was the only flight in 20,300 miles of air travel when we weren't on schedule. I retired from U. S. Bureau of Public Roads in 1949 to go with the California Division of Toll Crossings which was planning to build a second bridge across San Francisco Bay. That project was abandoned in 1950 when local opposition developed to the state's proposed location, so since then I have been in private consulting work and having lots of fun. Greetings to all you fellows who are fortunate enough to be in Harwich Port for the Reunion, and may we have still more attending our 50th."

From Claude Brown at Fort Lauderdale, Fla.: "Sorry couldn't make the Reunion but it was just too long a trip for a couple of days' pleasure, and I had no business excuse to justify the trip at this time. Earlier in the year had planned definitely on being there, but the sudden demise of the Price Control Act as it applied to the paper industry made it possible for me to retire before June 30, and I jumped at the chance. Had been in Washington since March, 1953, in the Forest Products Branch of O.P.S. The two years in Washington as a bureaucrat were fascinating, exasperating, and at times utterly futile, but someone had to do it and the industry picked on me. . . .

"Mrs. Brown and I moved down here last December, having bought the house the preceding February. At first we toyed with the idea of living here six months and spending the other six at our home in Orange, N.J. Finally decided that life was too short to try to maintain two homes, so sold our New Jersey one and have become à permanent Floridian. The weather here is delightful if you like to live out of doors practically all the year; the foliage and flowers are interesting and the weather is delightful. . . . This retiring business is marvelous. It is surprising how much you can find to do, and how little time there is in which to do it. . . ."

From Kurt Vonnegut at Indianapolis, Ind.: "Thanks for the excellent photo record of our glorious 45th Reunion. I enjoyed the meeting immensely — beyond all expectation; and so, I believe, did everyone else. Its success was entirely due to your and Mayo's skillful engineering. I thank you for it. Must we wait five years for the next one? For all of us the hour glass is running low. God be with you."

From Harry Patten at Kennebunkport, Me.: "Thank you very much indeed for the fine picture of the 45th Reunion of the Class of 1908. It was indeed a pleasure to see so many fellows, most of whom I had not seen for 45 years, as this was the first reunion I have ever been able to attend. Your selection of Snow Inn was an excellent choice. I am enjoying retirement at our home in this old town very much. Will look forward to seeing you again perhaps this winter and at future reunions."

From Jimmy Burch at Dubuque, Iowa: "It was a great pleasure to receive the reunion picture, and very thoughtful of Karl to provide them for everyone. The picture is unusually clear and would stand considerable blowing up. Harry Rapelye is somewhat hidden, but all the others are easily recognizable. Henry Sewell looks especially pleased, and Wattles is standing up like a Greek god.

"The daughter and family have left Belmont and are now living in Glencoe, Ill. While the moving was in process she brought the children here to Dubuque for a week. . . . I have just returned from the West Coast, after a two-weeks' trip to California and Oregon. I expect to be in Dubuque until September 20th, when Mrs. Burch and I have reservations at the Mayflower in Washington for the A.B.A. Convention. Thanks a lot for your courtesy in sending the picture, and with best regards."

Harry Lord from Lowell, Mass.: "Thanks for your letter of August 2 enclosing photograph of Reunion group. I'm enclosing a brief note to Karl Kennison and I would greatly appreciate it if you will forward it to him as I do not have his address. I certainly had a fine time at the party as I'm sure we all had — thanks to the work which you and the others did to organize the whole affair. At the dinner meetings this coming season, I hope to see you and the 'local boys' and visitors.

"Keep your eye peeled for a few easy house-painting jobs and maybe we can team up and make an honest dollar. I've been practicing on one for some time now, but my only reward is the loss of a few pounds. Don't contract for building any garages though, because I tried that and got creased by a 2 x 4 — doubtless on account of working on Sunday."

From Ralph Batchelder at Pasadena, Calif.: "Your letter was waiting for me when I arrived home and was most welcome. Thank you and Karl Kennison for the snapshot which is excellent and one I am very glad to have. The fine ash tray is prominently displayed in my living room. I certainly enjoyed the Reunion and seeing all of the old friends and classmates again. It was a fine place to have it. My wife and I stayed in Cambridge several weeks with her sister and saw many of her and my relatives. We then went to Manchester, Vt., for a short visit and then to Kent, Conn., for a month with our daughter and granddaughter. She has a summer place there. We then came home through northern New York, west to Colorado, where we visited some parks, and then through Santa Fe to California. . . . Thanks again, Nick, and if you or any classmates ever get out here, be sure to look me up."

From Clarence Clark at Hampton, N.H.: "Thanks for the snapshot. It is a very good picture of the group. We certainly had a fine time down there and the Committee is to be congratulated. I had a chance last week to look up Bill Toppan at Amesbury, Mass. Bill is in fair health but his wife is in poor condition and, as he has no one else living with them, he cannot leave her. Therefore, he could not get to the Reunion nor can he get to any of the winter gatherings. I am afraid I also will be unable to get to any of the dinners unless you have one after May 1. We expect to shove off for St. Petersburg about October 20 and get away from the snow and cold weather. Wish I could get down as I used to enjoy them very much back in 1940."

Letters like these are much appreciated by your classmates and are most helpful to your Secretary in producing notes for The Review. Why not turn over a new leaf and drop us a line once in a while to let the Class know what you are doing? George Belcher, our Class Agent, recently sent me an excellent newspaper picture of Miles Sampson who was serving as moderator at the 118th Annual Taunton Baptist Association Convention at New Bedford, Mass. Speaking of George, have you done the needful following his letter of October 1, 1953? There is no better time than the present to make your gift to the Alumni Fund of 1954. As to the amount, let your conscience be your guide. The important thing is to give something. Remember about "little grains of sand." — H. LESTON CARTER, *Secretary*, 14 Rosylyn Road, Waban 68, Mass. LINCOLN MAYO, *Treasurer*, 47 Alton Place, Brookline 46, Mass.

• 1909 •

Last month we told of the passing of Paul Lord, III, who had looked forward to spending his years after retirement at his home "Quiet Meadow" in Orleans, Cape Cod, where he had enjoyed his vacations. Through the courtesy of Mrs. Lord and Jim Critchett, VIII, we have recently received the following tribute by R. F. Goodwin, evidently one of Paul's close associates: "Paul Lord was an outstanding engineer and business executive with a most comprehensive knowledge of all phases of mining operations in Mexico. He was a skilled negotiator and through long experience became expert in handling complicated labor problems throughout Mexico. He was an able administrator, loyal to his employer and to his employees, a true friend and a good companion. In his passing his many friends and business associates have experienced a personal loss. Those in the mining engineering profession can be proud that Paul Lord was one of them."

Molly, XI, recently sent us a photostat of a page of the Bronxville *Review Press and Reporter* in which there is a four-column article describing the many activities of Royce and Mrs. Gilbert and giving a brief history of the couple. At the top there is a picture of Mrs. Gilbert holding their Siamese cat, "Malee." The Gilberts now live at 237 Park Avenue, Eastchester, N.Y., in an English-type house into which they moved after living in Boston many years when Royce was president of Chase and Gilbert, consulting engineers. Royce's firm was the builder of the Ritz-Carlton Hotel and numerous other structures in Boston, Philadelphia, Washington, and many other places. Because engineering work was keeping Royce away from home so much, he disposed of most of his business interests, and he and Mrs. Gilbert moved to Eastchester to be near their married daughter, Mrs. John Hitchcock. Royce still does consulting work and recently finished working with the government on one of its "top secret" projects. During World War II he served on the War Production Board. He and Mrs. Gilbert enjoy gardening as a hobby.

In the November Review we told of the trip which Phil, VI, and Theora Chase made to Europe and where, as vice-president of the U. S. National Committee, he attended the meeting of the International Electrotechnical Commission at Opatija, Yugoslavia, as a delegate. In September the I.E.C. holds its 50th Anniversary Jubilee Meeting in Philadelphia, the first meeting that has been held in the United States in many years. Phil is chairman of the committee which is in charge of this meeting, and it is no small undertaking. Your Secretary, as a member of the U.S.N.C. was present at a recent meeting in which Phil described the plans which already have been made.

After 42 years of teaching engineering at Harvard University, in which is included the six-year period when engineering at Harvard and the Institute were combined, your Secretary became an "Emeritus" officially on September 1, "in accordance with the calendar." However, the transition is not a great one. He still keeps his office at Pierce Hall, continues to supervise research projects as well as the work on United States and international electrical standards and definitions. As vice-president of the New England Mica Company, he is giving more time to its work. He is also supervising an educational program recently started at the Simplex Wire and Cable Company, Cambridge, for its engineering staff. This involves giving courses in electrical engineering at different levels, thus enabling the engineers to cope better with the technical problems that they are continually meeting. These duties, together with consulting work for other companies and revising his textbooks, finds him, like Brad Dewey, X, busier in his retirement than before.

You have recently received from Art Shaw, I, our new Class Agent, a letter asking us all to contribute generously to the Alumni Fund, particularly in our 45th anniversary year, thus putting '09 high among the other Classes. Let's give Art lots of encouragement in this new task which he has been good enough to undertake. — CHESTER L. DAWES, *Secretary,* Pierce Hall, Harvard University, Cambridge 38, Mass. *Assistant Secretaries:* MAURICE R. SCHARFF, 366 Madison Avenue, New York, N.Y.; GEORGE E. WALLIS, Wenham, Mass.; HARVEY S. PARDEE, 549 West Washington Street, Chicago 6, Ill.

• 1911 •

We lost a loyal member of the Class and the world lost one of its top-flight etchers when John Taylor Arms, IV, died in New York City on October 13 after a long illness, according to word just received from Joe Harrington, VI, who thoughtfully enclosed a New York *Times* obituary. He is survived by his widow, Dorothy Noyes Arms of Fairfield, Conn., whom he married in 1913; two sons, John Taylor Arms, 3d, of Highland Park, N.J., and Henry Noyes Arms of Fairfield; a daughter, Mrs. Margery Roberts of Hartford Conn., and a sister, Mrs. Dean S. Edmonds, also of Fairfield.

Admittedly the leader of the American school of architectural etchers, John was best known for his monuments of medieval art, to which he brought a high spiritual content and superb technique. He once defined a work of art as "any conception which will contribute in any degree to universal beauty, which is felt deeply and with humility, and which is expressed in terms of beauty with a skill born of knowledge." He did a lot of lecturing and his philosophy was bound up in this remark he once made: "I only know that in the presence of something that seems to me beautiful, I am conscious of an inner stimulation and the immediate desire to interpret in terms of the etched line my reaction to this inspiration, and thus share it with others."

For more than 35 years John's etchings have held a premiere place and believing that the Gothic expressed man's aspirations most significantly, he was in endless quest of the mighty monuments of France, Italy, Spain and England, which he sought to perpetuate on copper plates for posterity.

Born in Washington in April, 1887, the son of John Taylor and Kate Watkins Arms, he decided early in life to be an architect and attended M.I.T. from which he graduated with us, first having had two years of undergraduate work at Princeton University. He returned for his master's degree at M.I.T. in 1912 and then became a practicing architect for five years, first with Carrere and Hastings and then as a partner in the firm of Clark and Adams. His first etching in 1915 was "Sunlight and Shadow." He entered the Navy in World War I and following this devoted all his time to prints.

There is hardly a museum in this country in which John's work is not represented, including the Metropolitan Museum, the Brooklyn Museum, among major institutions, and the New York Public Library, which has all of his work. Abroad, his prints are in the British Museum, the Victoria and Albert Museum and other leading public collections. He was a member of the American Society of Graphic Arts, of which he was president for many years; the American Academy of Arts and Letters; a Chevalier of the Legion of Honor; and he was honored for his work with awards by the American Institute of Architects, the Paris International Exposition (1935) and the Pennsylvania Academy of Art. A friend to any artist who needed help, he gave of his time and energy without stint. Truly, there was a man!

Following my early fall Class Agent's letter to classmates in opening the current Alumni Fund XIII, word came of the death of a classmate, Norman Nelson, VI, who passed away on March 22, 1952, at his home in Toms River, N.J., whither he and his wife had retired the previous year. He had been in business for a number of years, prior to retirement, in Westfield, N.J. "He hadn't been well for several years," his widow wrote me, "but during his final illness, which lasted seven months, he suffered terribly and wasted away to a mere 109 pounds. . . . Norman was so happy in Toms River — it seems a shame he couldn't have enjoyed it just a little longer." Our sympathy has, of course, been expressed to Mrs. Nelson.

Another touching letter came from Liv Ferris, VI, who had retired a few years ago with his wife, Vara, to his old family plantation at Lecompte Postoffice, La., near Alexandria. Last March his wife suffered a stroke and, seemingly improving, had another which completely paralyzed her right side and her speech. Fortunately, their two children were able to get home before their mother passed away on March 15. "She had gamely struggled against ill health for many years," Liv wrote, "and I had hoped she would be spared to see the completion of the renovation of the old home and be able to relax and enjoy it. But it was not to be."

His daughter, Eloise, remained with Liv for quite a period helping in winding up affairs and putting the home in shape so that he could have visits at his daughter's home in California and then at his son's home in Boulder, Colo., whence he wrote the mid-October letter. "My stay with Eloise in California was very beneficial," he continued, "until I had the misfortune on August 2 to fall and break my back. A slipping rug in a friend's home sent me down like a pile-driver's weight, compressing (slightly) the first lumbar vertebra and snapping off a transverse process of the third lumbar. Two weeks in hospital, then fitted with corset, I returned to Eloise's home. Driving a car was out, so I sold mine and flew to Colorado a few weeks ago. Doctors promise complete recovery so I can ride horseback again. Shortly I will return to Louisiana, but it will be extremely difficult to carry on without Vara.

"After the first of the year I hope to get back to the east and see old friends for a while, particularly '11 men wherever possible. Here at my son's in Boulder, Colo., I am enjoying my grandchildren: Elizabeth Ann, eight; Margaret Lee, seven; and Livingston, 3d, 4 years. Also here is the University of Colorado, where I went before M.I.T. It was here that Vara and I became engaged." We are all deeply sorry for you, Liv, in your bereavement and subsequent serious fall, but how fortunate that there is hope for complete recovery. Amen.

John Scoville, IV, one of our eagle-eyes, sent me a clipping from the Hartford *Times* of September 21 telling of the death of Mrs. Gertrude Thomas Hayman, 38 Roberts Lane, West Hartford, Conn., wife of Milton E. Hayman, IV, at her home on September 19. Gertrude was born in Revere, Mass. She was a member of Immanuel Congregational Church and leaves, besides her husband, her mother, Mrs. Lucretia C. Thomas, and a daughter, Miss Nancy Hayman, both of West Hartford, and a son, Robert B. Hayman of East Orange, N.J. Gertrude had always seemed to enjoy attending our reunions, whenever she and Milton were able to, and we will surely miss her. In response to my note of sympathy, Milt wrote: "Thank you so much for your comforting note. Gertrude had apparently been very well and happy, as always. An hour of pain and she was gone. I am sure it is better to go quickly if it has to be, but the shock of it is pretty awful."

John wrote that he and Bert were sorry to miss the informal reunion at Snow Inn, Harwich Port, last June, adding: "I will be in Hartford from now on — 44 North

Quaker Lane, West Hartford, Conn. – from now on, but will try to attend the usual 'cluck and suiter' luncheon in January." (That last refers to the luncheon we '11 mates have under Don Stevens' guidance annually now when I go to New York for the Retail Dry Goods Show and annual meeting of the American Association of Retail Executives. This year the luncheon will be Tuesday noon, January 12, at the M.I.T. Club in the Architectural League, 115 East 40th Street.) Speaking of President Don Stevens, in a recent letter he wrote: "As a matter of news, Elsie deZubiria is living with us this fall. She is the daughter of Alfredo de-Zubiria Stevenson, who was M.I.T. 1920. Elsie comes from Cartagena, Colombia, South America, and she is a very lovely and very welcome addition to our household here in Ridgewood."

Another "junior '11 man" item: Mr. and Mrs. Allston Tattrie Cushing, I, announce the marriage of their daughter, Emma Mae, to Mr. Benjamin Frederick Forman on Saturday, the 19th of September, at Kansas City, Mo. At home: 1648 Swan Drive, Tulsa, Okla.

In an accompanying letter, Cush wrote that the bride is their only daughter and is a medical technician in St. John's Hospital in Tulsa. The groom is a mechanical engineer, with office in Tulsa. "I took my vacation in May and took a trip which I have been wanting to take for years. My wife thought it would not be of interest to her, so she went west and I went east. I visited two sisters in New York City, a brother in Grand Falls, New Brunswick, another brother in St. John, N.B., and an aunt in Trenton, Nova Scotia. I also attended alumni dinner and commencement at the University of New Brunswick, where I graduated before going to M.I.T. . . . I am still office engineer at the Sunflower Ordnance Works, here in Lawrence, Kansas, and I send greetings to you and yours and other '11 men."

Remember a tall, slim young classmate, who was a whiz of a tennis player during undergraduate days? I refer to Fred Covill, II. At long last he has responded to the famous "Write to Dennie!" plea, writing in early October from 138 College Avenue, Malone, N.Y., as follows: "You have so faithfully tried to keep in contact with 1911 Class that I drop these lines to you. It has been impractical for me to do much alumni work – between family troubles and financial troubles – also being located in numerous places in eastern U.S.A. and in Canada – also being in hospital several times has kept my interests pretty much to problems at hand.

"Happily I am somewhat straightened out now and am semi-retired, although I am still ambitious to do things and at this moment I think I look healthy enough, have enough to live on at the moment, but not to spend outside my family. Industrial engineering, mostly in shoe factories, has been my principal work and can add building maintenance and cost work as two specialties. Have been in about 440 shoe factories and also about 2,300 other miscellaneous manufacturing plants in U.S.A. and Canada. I played tennis and baseball for a number of years – had to give it up 15 years ago. Aside from yourself, Ted Parker is the only classmate I remember seeing or directly hearing from, since I left Boston in 1911. It seems strange, considering the number of technical men I have contacted. I motor around quite a bit and go to Boston once every few years. If I pass through Gardner I will try to stop and say hello, even though it may be a hurried one. Best regards to you and all the rest of 1911." That's the kind of a letter that is like a spring tonic to a Class Secretary, believe me.

Charles A. Maguire, I, and Associates, consulting engineers with headquarters in the Turks Head Building in Providence, R.I., have just completed a $103,599,000 master highway plan for the Springfield area. Referring to this editorially, the Worcester *Telegram* of October 17 said, in part: "Worcester residents may be pardoned a smile when reading of the Springfield master highway plan completed by Charles A. Maguire and Associates, for Worcester has such a plan, too. . . . Springfield might as well make up its mind to be patient on this report. If there is more money to be spent on highway improvements, Worcester has a right to point to its master plan survey and to suggest this should not be forgotten." Oh, me!

I put a postscript on the Class Agent letter to Clifford L. Hufsmith, II, asking "What's cookin'?" and Pop replied from Palestine, Texas: "What's cookin' with me now? I'll tell you, son, I'm trying to keep one jump ahead of the tax collector and, unfortunately, I'm doing a poor job. Every time I think I'm getting a little bit ahead, I get a notice from him to 'Please remit.' You Republicans voted the Democratic ticket so long, I fear you have ruined our country." Good old Pop!

Had a phone call on October 8 from nearby Winchendon and it was my old Framingham High School and M.I.T. fellow-graduate, David P. Allen, II, who was passing through en route from a New Hampshire vacation to his home on St. Leonard's Creek in Lusby, Md. (near Washington). He said he regretted very much that he couldn't get over here and accept my invitation to lunch, but he had to be home before evening and so must be content with a phone call. He is enjoying his life of semi-retirement after years of faithful service with the gas company in our nation's capital and is still doing some consulting work, particularly on natural gas installations. It was great to talk with him, and I hope I successfully persuaded him to get to reunions in the future.

From the *National Underwriter* for August 27 we learn: "John L. Wilds, II, who was just recently elected chairman of Protection Mutual of Chicago after having served as president for many years, has bought a house in his native city of Darlington, S.C., and expects to move there from Kenilworth, Ill., in the near future. He will go north especially for the board meetings of the various insurance companies of which he is a director, including, besides Protection Mutual, Union Mutual Fire of Providence, Mutual Boiler, and Appalachian. Mr. Wilds was graduated from the University of South Carolina, and then after postgraduate work at M.I.T. started with the Factory Mutual Companies in 1911." Shall be looking for a letter from you soon, John.

Dick Ranger, VIII, writes that he has been quite busy this fall doing some motion picture sound for Carnegie Hall in New York. Oh yes, I've had a letter returned for a better address: does anyone know the present whereabouts of Frank C. Dolke, VI, last known to be at 311 Lincoln Street, Spokane 8, Wash.?

Hope you noticed that 1911 again shows to advantage in the 1953 Annual Report of Alumni Fund XII – be sure this is true for the current Fund, classmates – it's up to YOU. And now best wishes for a merry Christmas and happy New Year from Dennie and Jack! – ORVILLE B. DENISON, *Secretary*, Gardner Chamber of Commerce, Gardner, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford 55, Mass.

• 1912 •

We regret to report the death of W. Wheatley Mowry of Covington, Ky., in January of this year. News has just reached me of the death of W. Graham Cole of New York City, who passed away on April 12 of this year.

Aksel M. Pederson, Washington, D.C., passed away suddenly on June 12. After graduating from the Institute, Pederson took his law degree at the National University and entered the Patent Office. For many years he had operated as a patent attorney under his own name in Washington, D.C. In 1950 he was made a fellow of the American Chemical Institute. Aksel specialized in collecting objects of Chinese art and had traveled around the world and across the Atlantic seven times in pursuit of his hobby. For several years he was organist and choir director of St. Albans Episcopal Church. His wife, Helen, survives him.

Frank Henry Curtis, whose death was mentioned last month, went with the Phelps Dodge Corporation after graduation. In 1922 he joined the Braden Copper Company and rose to the position of assistant chief chemist. He was associated 31 years with this company in Chile. He was keenly interested in boxing, tennis, football and baseball and was at one time the pitching star and mainstay of the Sewell, Chile, baseball team.

W. Graham Cole, one of the nation's foremost safety experts, fell to his death in April from his apartment in New York City. Cole was assistant secretary of the Metropolitan Life Insurance Company having been with them for the last 28 years acting also as head of their Safety Bureau. He had been chairman of the traffic sections of both the National Safety Council and also had been a member of many other state and city traffic committees. In 1951 he was appointed chairman of the New York Citizens' Committee for Traffic Safety.

Paul E. Jeffers passed away in Los Angeles on August 7. Paul was responsible for the structural design of many well-known Southern California buildings, and was an authority on earthquake resistant construction. He opened his own office as a structural engineer in 1919 and among his buildings were the Santa Anita race track, the Subway Terminal Building,

Robinson's Beverly Hills Store, the Southern California Gas Company office building and the Pasadena Courts Building. Following the 1933 earthquake he became a member of a committee to advise the Los Angeles School District on its general program of reconstruction. He was a past zone director and past vice-president of the National Council of State Boards of Engineering Examiners and was former chairman of the Los Angeles Chamber of Commerce industries committee. He was appointed to the State Board of Registration for Civil and Professional Engineers in 1945 and became its president two years later. Paul was one of the early members of the California Yacht Club and also a member of the University Club of Los Angeles.

We are pleased to announce the arrival of Eric Kebbon Irwin on July 22. This is Eric's first grandson.

Allen W. Reid reports from Reading, Pa., that he is a resident of 27 years' standing and has served as a burgess or as a member of the Boro Council for 10 of these years. Two married sons and a daughter live nearby and when the family gathers there are 10 grandchildren about. Allen has served as chief hydraulic engineer for Gilbert Associates, Inc., who are engaged in power development and also cover sanitary and industrial engineering as well. His work has taken him to the Philippines, Egypt and Colombia, South America. A year ago he retired from regular employment but remains on a call basis which permits him to take on outside work. He reports no spare time. A year ago he was on a job in New York State where he met Arch Eicher who was representing Merritt-Chapman and Scott. He also meets Clarence McDonough who is now vice-president of the Foundation Company. When last in Denver he spent a very pleasant evening with Rudy Fox.

B. H. Morash reports from Toronto that their local club had a very pleasant evening when Erwin Schell addressed them on "Industrial Difficulties and Opportunities in the Changing World." That evening Morash got a few fellows together for dinner who knew Schell, and they enjoyed a very pleasant evening. — FREDERICK J. SHEPARD, JR., *Secretary,* 31 Chestnut Street, Boston 8, Mass. *Assistant Secretaries:* LESTER M. WHITE, 4520 Lewiston Road, Niagara Falls, N.Y. RAYMOND E. WILSON, 8 Ogden Avenue, Swarthmore, Pa.

• 1913 •

William F. Herbert, a casual sojourner of New York, was influenced to settle in California, bring up a family of boys who, in World War II, did not follow their Dad in the Air Service, but joined the Navy. They matriculated at the University of Washington, Harvard, Stanford, with Bob at Tech. We salute you and your six grandchildren.

Ralph Rankin, having placed the American Telephone and Telegraph Company on a paying basis, has retired to Sarasota, Fla., with two married daughters and four grandchildren, plus a motor boat, not a sail boat. We guess life begins at 60. Can you still play the banjo? C. H. Haglin, who specializes in construction at Minneapolis, sends greetings to all good classmates. Sam Selfridge of Frisco wants to be remembered to Bill Mattson, Fred Murdock, and all interested classmates.

Jerry Lane is Florida bound, but is planning on retirement to Santa Barbara, Calif., not as a native son, but as an adopted one. Stay East, young man. Mayo Tolman is a farmerette's husband who happily hibernates in Picayune, Miss.

Bill Mattson, who is our "Atomic bomb" or "H projectile," after many years (six) as an alderman of Newton, Mass., is still "in the ring." He "does not choose to run," but as he sees it his duty, he is a candidate for a re-election and will win. Allison Butts, as department head of metallurgical engineering at Lehigh University, reports his academic duties prohibit him from returning for his desired visits to Boston.

Robert A. Nowlin of Elkhorn, Va., advises that circumstances will prevent him from active participation in current celebrations of our Class. We hope that he will plan to be with us at our next reunion in 1955 or 1956. R. J. Murphy, with the Avalon Telephone Company, Ltd., St. John's, Newfoundland, sends greetings to his old pals (P.S.K.). Arthur Hirst from way down "On Top" Paris Hill, Pawtucket, R.I., wishes to be remembered to his old crowd, especially of Course V. Bob Nichols, 1002 Press Building, Binghamton, N.Y., is Washington bound. He is looking forward to our 45th Reunion. How about our 42nd or 43rd?

George Dempsey, Newton Highlands, Mass., has lately attended a management meeting in Cleveland. Stan Parker, 1855 South Kilbourn Avenue, Chicago, Ill., is no longer a golfer. He states he was with us "In spirit only, not in flesh." What does he mean? General Al Jones, now of Frisco, has retired to the Golden Gate area. After his "knocking about the world so much," he is now "enjoying a bit of stabilization for a change." New address: 2146 Ninth Avenue, San Francisco, Calif. Dave Nason, 3728 North Fratney Street, Milwaukee, 12, Wis., the cartoonist of our youth, is still receiving sheepskins where the former Boston Braves are now "beered."

J. B. Woodward, Jr., who has only spent 39 years with the Newport News Shipbuilding and Dry Dock Company (recent "blue ribbon" product, the S.S. *United States*) from office boy to chairman of the board, together with other activities and trusteeships, has been twice a grandfather. He still rates himself a good golfer. John Hession, a designing engineer and contractor at 101 West Dedham Street, Boston, is interested even now in our 45th Reunion. How about one in 1955 or '56? Warren Gentner, a water supply engineer of Hartford, Conn., attended the American Water Works Association Convention at Grand Rapids, Mich., and, also, visited his daughter and grandchildren in Denver.

Max Harrington, Detroit Edison Company Structural Division Engineer, whose department designs all buildings for the company, states that under the present plans their program provides for an extensive expansion of new construction for the next 10 years. Twice during this past year he has been honored as a grandfather. More power to you, Max. George E. Leavitt, Jr., Bayonne, N.J., is plant manager of "Wesson Oil people," who are celebrating their employment of George. Without sufficient assistance, he is sure the "first 40 years may be the hardest," but with retirement only three years away, he will welcome a 1913 Reunion in 1956.

Bill Bryant, formerly of Brookline, Mass., has spent many years supervising several housing projects around and near Oak Ridge, Kingsport, and Johnson City, Tenn. He still has a summer home at West Dennis on Cape Cod. His several children reside in Lexington, Mass., Kingsport, and Johnson City, Tenn., as well as in Albuquerque, N.M. Bill has several grandchildren who, like their parents, will probably be recipients of many master and doctoral degrees. Earle R. Lincoln of the Marwell Construction Company, Holberg, B.C., is constructing a new townsite and radar station on Upper Vancouver Island at a cost of eleven million dollars to date, and it is still not finished. This project is located near Earle's 320-acre ranch. He reports. "I am unmarried and have no family," besides "being in good health."

Marion Hart (nee Rice), 11 East 73rd Street, New York City, reported that her plane was not ready, so she could not fly to the Cape. She added, "I won't be going anywhere." The several newspapers received from New York City, Worcester, Mass., Hartford, Conn., dated August 27, related that the American sportswoman, Mrs. Marion Hart, made a 13¾-hour "hop" from Newfoundland to the Shannon Airport, Ireland. With a copilot she flew on a nonstop flight 2,500 miles over open sea.

Our classmate, Marion, with a chemical engineering degree from our Alma Mater and a master's degree from Columbia University, has been successful in sciences and has achieved even greater accomplishments as a world-wide traveler and pilot. Her global travels started in 1936 when she purchased a second-hand 73-foot ketch in England, and sailed through the Mediterranean, Indian Ocean, across the Pacific, past or to New Guinea, the Solomons, and New Zealand, continuing through the Panama Canal, and arriving in New York during 1939.

Following her entry into aviation, she has flown, copiloted, and piloted many types of planes several times across the Atlantic, to Alaska, and South American countries. During her spare time she has written and published many books and treatises on geology, navigation, and general flying information for adventurous aviators.

To all classmates of the Class of 1913 who have now reached the age of accomplishment, riches, and retirement, you should spend a few of your leisure hours or days reminiscing and record your past experiences, your hopes, your future plans, and your opinions of local and world affairs. This accomplished, mail posthaste your findings to your loyal Secretary. — FREDERICK D. MURDOCK,

Secretary, Murdock Webbing Company, Box 788, Pawtucket, R.I. GEORGE P. CAPEN, *Assistant Secretary,* 623 Chapman Street, Canton, Mass.

• 1914 •

From Charlie Fiske comes word that August H. Miller died on August 24 at Rockville Center, Long Island. Gus came from Zanesville, Ohio, first entered Ohio State University, transferred to Lehigh University, and then came to M.I.T. He married the former Leah Stevens on November 30, 1927. Gus is survived by his wife, a daughter Clarinne, and a son Churchill Stevens, on whose 19th birthday Gus died. In the early days of talking movies, Gus became associated with the Electrical Research Products, Inc., a subsidiary of the American Telephone and Telegraph Company, and then later with the New York Ordnance District, where he served as administrative officer with contracts running into many millions. He served there during World War II, the Korean War, and was called back again about a year ago.

The American Automobile Association bulletin of September contained the following note: "Massachusetts provided two of the outstanding speakers at the 51st Annual National Meeting of A.A.A. delegates in Los Angeles, September 9, 10, and 11. . . . Key speaker on the panel discussion, 'The Car,' analyzing the modern design and safety factors, was Professor Dean A. Fales, Research Fellow at M.I.T. and a member of the Massachusetts Division Advisory Board. Professor Fales is one of the best known authorities on automotive engineering and has been a member of the A.A.A. Contest Board for many years."

Our classmate Marion Rice Hart has been making headlines recently in connection with her around-the-world flight. The following is a first announcement and is from the August 25 Boston *Traveler:* "A wealthy New York woman took off from Bedford Airport today in a try for a place in aviation history by flying a light plane across the Atlantic. She is 62-year-old Mrs. Marion Hart, well-known sportswoman and author of a number of articles on personal flying. Her plane, a Beech Bonanza, had been at the Bedford Airport being equipped with extra tanks for the long over-water hop.

"The first leg of the long trip is to St. Johns, Newfoundland, via Fredericton and Sydney. She designated Gander, New Foundland, as alternate. With the extra tanks, the plane had 12 hours gas.

"Mrs. Hart plans to continue on through Europe, Africa, and Asia to Australia. She expects to be gone several months. Some years ago Mrs. Hart attracted international attention when she skippered a 90-foot ketch on a three-year, 30,000-mile trip around the world. She was at sea 1,040 days and visited 101 ports. This trip led to a book by Mrs. Hart entitled: *Who Called That Lady a Skipper?*"

Your Secretary had the pleasure recently of spending a week in the Mayo Clinic at Rochester, Minn. As the result of his World War II activities, he developed a serious hypertension condition, which he has been unable to get rid of. If the Clinic were not a non-profit organization, no further word would be in order. Many M.I.T. men have come to your Secretary trying to sell efficiency systems. None have had anything which remotely compared with that employed at the Clinic. It combines efficiency and courtesy in a manner your Secretary has never before experienced. Best of all, except for a few bottles of pills, the recommendation was that your Secretary attend our 40th Reunion – but take two extra days, one before and one after the main event. How about this applying also to a whole lot of Fourteen men? — H. B. RICHMOND, *Secretary,* 275 Massachusetts Avenue, Cambridge 39, Mass. ROSS H. DICKSON, *Assistant Secretary,* 126 Morristown Road, Elizabeth, N.J.

• 1915 •

On October 16, 35 classmates and their 12 guests, including three sons of the Class gathered at the Faculty Club, M.I.T., Cambridge, for another exciting class dinner. This attendance of 47 smashed all previous records. Nice going, classmates! We owe our thanks to Bill Morrison, Manager of the Club for the enjoyable dinner and the excellent appointments and service which he and his staff gave us. There were no speeches but Marshall Dalton gave us the latest information on Institute affairs following which Max and Weare presented their preliminary plans for our 40th Reunion in 1955. This led to a vigorous discussion with many important questions yet to be settled. Hank Marion volunteered to head a New York Committee to organize a dinner down there. Max and Weare will present their plans to the New York gang after which they will begin to organize definitely for the Reunion. They have some unique plans and we want you all to get together to make this our biggest and best Reunion. Just see from this list who was at the Boston dinner: Whit Brown, Harold Colby, Jack Dalton, Dinger Doane, Sam Eisenberg, Reggie Foster, Ricker Freeman, Ed Goodell; Abe Hamburg and his son David, and guest Frank Winter; Peter Hooper, Wink Howlett, Clive Lacy, Larry Landers, Ernie Loveland; Azel Mack, with his guest Jim Tonra, and adopted classmate, Jim Hoey '43; Hank Marion, Arch Morrison; Pete Munn with guests Warner Staff, John Torosian, Thomas Ronoyne; Frank Murphy with his son, Branen E. Murphy; Harry Murphy, Charlie Norton; Wally Pike with his guest Herbert C. Albee; Pirate Rooney with Bob MacCormick; Chet Runels, Al Sampson, Frank Scully, Henry Sheils with his son William Sheils; Jac Sindler, Ed Sullivan, Speed Swift, Elmer Waters, Easty Weaver; Max Woythaler with his guest Louis O. Clements; Louie Young with guest John McGrath.

Harold Colby shows our typical class spirit. Seriously ill recently he wanted to come to the dinner if he could possibly get there; Frank Murphy offered his services to drive Harold back and forth to the dinner and we were glad to see them both. Our guests are always welcome, particularly sons of the Class and the "long time no see" guests: Jim Tonra, Brookline Chief of Police; Louie Young, "look sharp, feel sharp, be sharp," Ernie Loveland and Ed Goodell. The Satchell Paiges did a great relief job in rounding up this record attendance; our thanks to Archie Morrison, Sam Eisenberg, Wally Pike, Pirate the Red Rooney, and Henry Sheils.

One of our regular attendants, Loring Hayward from Taunton was unavoidably absent due to serious illness in his family, otherwise he surely would have been with us. Jim Hoey'43 now president of his Class, and my guest at the dinner, expressed his appreciation for help from 1915 in making their 10th Reunion last June so successful.

Louie Young came up again with a nice gift for everyone from the Gillette Safety Razor Company where he is vice-president. It was a bomb container of their new Gillette Foamy Shaving Cream described in their popular World Series broadcast. Already I've had reports of what an excellent product it is. Many thanks to Louie for his generosity. He said a few highly complimentary words about M.I.T.'s industrial policy as an industrial consultant.

Our long distance competition was keener than ever. Battling it out were: Whit Brown, Concord; Al Sampson, Beverly; Fred Waters, Marblehead; Max Woythaler and Lou Clements, Framingham; the Lowell twins, Reggie Foster and Chet Runels; Speed Swift, New London, N.H.; Ernie Loveland, Marion; Charlie Norton, across the sea from Martha's Vineyard; and the winnah, Hank Marion from New York City. How are you going to beat such class spirit!

Everyone agreed that it is a 1915 mystery how at these dinners we get so much for so little. Unfortunately, Speed Swift was not in voice and many were disappointed that he could not render the threatened version of the third verse of (was there a third verse?) of our old Tech Show song hit, *There Are Three Reasons Why Men Drink.* He had some rave notices on the first two verses at previous class dinners.

In Detroit, in September, I failed to see Loring Hall but had a pleasant visit with Speed's brother, LeRoy Swift. In Connecticut, Fran and I were unable to see Jim Tobey ensconced in retirement on his farm in Newtowne but we phoned him and he seems to be doing all right for himself.

On October 24, in the First Presbyterian Church, Lockport, N.Y., Ben Neal's daughter, Margaret McKay was married to William Joseph Ralston, Jr., of North Scituate, R.I. Many of us remember Peggy, the cute and attractive girl during her school years and business career in Boston. Ben must have been rightfully proud walking down the aisle with her. All the best from 1915 to this fine young couple for a long, happy and successful life. Ben wrote: "Many thanks for sending me the notice of the Class Dinner on October 16. I just have it strongly in my mind that I would like to fly down for the week end to be with you on this occasion. However, as you probably know by this time, Peggy has

made up her mind to be married on the 24th of October, and I guess it would not be quite the thing for me to sneak out on her so shortly before the eventful day. Unfortunately, there doesn't seem to be any news to tell you; have seen very little of Bill McEwen this summer, and have a hunch that he is not feeling too well. He did have a scheme built up to have Wink Howlett and somebody else lined up to come and spend a week end at the Buffalo Country Club, but apparently it fell through because I have heard nothing further about it. Even if I can't come to this current dinner, I am going to look forward to coming down for some of the future events this winter. With very best regards to you and Fran, and tell her that we very much missed the customary visit this summer. Of course, you know she is the one that we like to see, but it's still nice to have you tag along."

Competitors for the long distance prize at the Boston dinner were Vince Maconi and Bill Campbell, both of whom unfortunately had to cancel at the last minute. In answer to my letter accusing Bill of having been in Boston without seeing me, he wrote: "Much obliged for your good letter and the invitation to the Class Dinner on the 16th. I'll try to make it, but it looks very doubtful at this moment. Your spies must have been giving you the wrong steer as I haven't been in Boston since June when I came up for the dedication of the new Food Technology Lab and the breakfast in honor of Professor Bernie Proctor, and I had to catch the first train back. Know you will have a fine party and give my best to Henry, Frank and all the others. . . . Best of luck to you both."

It is very sad to report the passing of these classmates: Rear Admiral Charles F. Brand, on April 18, 1952, at Beverly, N.J. Since his retirement from the Navy in 1949 Charlie had been supervisor of construction of luxury passenger ships for the American President Lines. He was graduated with honors, sixth in a class of 132, from the U.S. Naval Academy at Annapolis in June, 1910. He was a member of the varsity football team for four years. Admiral Brand was selected for postgraduate study at M.I.T. where he received a degree in naval construction. He also had served as head of the construction division, Bureau of Construction and Repair for the Navy Department and in 1936 was designated to receive the first award of the Linnard Foundation Memorial to the member of the Construction Corps who had done most to advance the work of that group during 1935. The Class sends its deepest sympathy to his wife and family.

We have had word that Dr. Ralph W. E. Cole died July 6, 1953, in Falmouth, Mass.; Mrs. Howard W. Wellwood died June 10, 1953, in Wellesley, Mass.; John C. Holmes, March 26, 1953, in Franklin, N.H. Our sympathy to the families of these classmates.

Here I am again prompting you classmates again. The notes must be information about yourselves, so please "help Azel." — AZEL W. MACK, *Secretary,* 40 St. Paul Street, Brookline 46, Mass.

• 1916 •

About two weeks before the deadline for this particular column, we were really up against it with no material at all for the column on hand. We sent out a hurried call for help, and the wonderful response that we got can be seen in the letters we quote below.

Ed Weissbach writes: "I'm afraid there isn't much for me to say to help out our Class Secretaries. I did get to Boston after the Reunion; went up to the annual meeting of the Institute of Food Technologists later in June. During that period the Dorrance Building at M.I.T. was dedicated and that was on my schedule. Most of the Campbell Soup M.I.T. men were there (Dr. Dorrance was a member of the Class of '96 and the company gave a donation in his memory). On the way home we went via North Conway and spent a few days at a friend's camp in Bartlett. For a vacation this year we again went to the Great Smokies making Asheville, N.C., our main stopping point. Every time we cross the Delaware Memorial Bridge I realize your part in its construction. Unfortunately, we can never see the granite from the bridge roadway. I always pick up any likely flagstones on my travels and added a few more on this trip. In North Carolina we visited the Toy Shop in Tryon. To my surprise I found it is now operated by a 1918 M.I.T. man, Horace M. Guilbert. Now there is a man who has retired and is making a business out of his hobby. We came home via the Cumberland Gap and looked at Berea, Ky. Every pasture in the Blue Grass region was burned brown! Crossing the Ohio River at Maysville, we avoided the main roads and took the back ones to Granville, Ohio (Denison University) where we visited my nephew who has just been installed as rector of St. Luke's Episcopal Church. From Granville we struck out for the Penna Turnpike, and so through Philadelphia and home. Maybe I'll have something of interest for a later issue."

Here's one from Duke Wellington: "Your letter of October 10 nearly crossed with mine. I am reporting on some changes that have taken place within the last six months. On October 1 I resigned and have retired as sanitary engineer of the New Haven Water Company. Mrs. Wellington and I are now living at the above address. We plan to spend the winter months either in Florida or traveling and the summers at our cottage on Littlejohn's Island, Me. I went to a recent meeting of the M.I.T. Club in New York at Jake Ruppert's brewery. I fully expected to see some members of the Class at this meeting. If there were any there, I did not recognize them and could catch up with no one with 1916 on their tag. I always thought there were certain members of this Class who were always around when free beer was being served. Will you please advise the Alumni Secretary of my change of address so that material will be sent to me here at 86 Stratford Avenue, White Plains, N.Y."

And, Bob Wilson writes: "Probably the biggest personal news of the past year in the Wilson family was the birth of the first male heir after three granddaughters. As a matter of fact, there hasn't been a male born in either my family or my wife's family for 51 years! His name is James Robert George, son of Bill and Janice Wilson George. Mrs. Wilson and I had the pleasure of a trip to the Scandinavian countries this summer with a classmate, Bill Leach, and his wife, and another couple, partly to attend the meeting of the International Congress of Pure and Applied Chemistry in Stockholm. We greatly enjoyed the scenery in Norway, and meeting many old chemist friends, and seeing many historic places in Sweden and Denmark. I continue in good health and spirits, and average about one speech a week in addition to many other activities. Two more honorary degrees brings the total to eight. My golf game is getting rather erratic, but my opponents still know they have been in a battle!"

And this one from Ed Williams: "My latest activities have not been of a most favorable nature. Last June I received what my friends term 'a warning' but what my doctors called a slight coronary, which required six weeks in the hospital and another 10 weeks on Cape Cod. I'm now back in the saddle again, but on a short hour basis which I am stepping up weekly. As you know, I have been with the Associated Factory Mutuals ever since graduation, except for World War I time out. I have one son, who graduated from M.I.T. in January of 1947 after World War II interruptions, and he is now assistant vice-president of my company. I have two granddaughters, and as all of the other grandfathers know, they are wonderful little people. I hope you and yours are well, and that you will pass on to the boys of '16 that it's smart to take care of themselves and ease up a bit as the years roll up."

Another very interesting letter comes from Harry Whittemore in Los Angeles: "Your letter had such an appeal, and, coupled with the fact that I have been trying for two or three years to get my address plate changed from a labor organization and it now is straightened out, that I am forced to answer your letter immediately. You should make a grand sales manager for some company with your appealing letters. Briefly, after following an engineering career for several years, only to find the construction jobs did not last much longer than a year and I would be looking for a new field, I finally located and adjusted myself in the lumber manufacturing and distributing business in San Diego, Calif. This operation, known as Benson Lumber Company, produced many historical and romantic experiences. The Company owned and operated its own logging operation on the Columbia River; it constructed large cigar-shaped ocean rafts containing six or seven million feet of logs and towed them a thousand miles from the Columbia River to San Diego and then cut them up for, principally, house construction work. After 20 years in that business, starting as an order clerk and ending as general manager and an officer in the company, I found the principal owners of the business, as well as the business, dying out, so I made another change. I am now operating one

of the principal wholesale, rail, softwood lumber businesses in Los Angeles. I am happily married – one son and two grandchildren. Our offices are located in the new General Petroleum Building – most centrally located in Los Angeles, and would be happy to extend an invitation to any of our classmates or any other Alumni to stop in and say 'hello.' In fact, will take them to the Jonathan Club for luncheon, where I have been a member for several years. Trust this is the type of a personal reply that you are looking for and hope to see you one of these days."

Your Assistant Secretary wonders if he is the last one in the Class to have just taken his first air trip – out to El Paso and Albuquerque and return this summer with a rejection finally of the stand-by refrain: "I don't fly unless it's urgent and I haven't flown yet." Gil Gaus is seen quite frequently on the 5:20 Christopher Street Ferry from New York City to Hoboken, N.J. He's a close neighbor of a mutual (just retired) friend and carries greetings back and forth. Speaking of retirements, Harold Mills retired recently – always said he was going to before he had to – after some 35 years as an expert in electronic filter design at the Bell Telephone Laboratories in Murray Hill, N.J. He's been doing some traveling and is sending in a story.

It is our unpleasant duty to inform you of the passing on of some of our members from time to time. In some instances all we get is a brief notice of the date of the death. In other cases, a brief biographical sketch accompanies the notice. We always try to get as much information as we can, feeling that you will want as complete a report as possible. We regret to report the death of Ralph Bennett which was brought to our attention by the following clipping: "H. R. Bennett, vice-president and director of the Union Producing Company of Shreveport, La., and a director of the United Gas Pipe Line Company, died at 3:30 P.M. Wednesday (August 19) of a heart attack while playing golf at the Shreveport Country Club. A former resident of Houston while an executive with the Mills-Bennett Producing Company for about 16 years, Mr. Bennett had held various executive offices in producing departments of the oil and gas industry during the last 30 years. Mr. Bennett was a member of the oil and gas field materials committee of the Independent Petroleum Association of America and president of the advisory committee on depletion for the Mid-Continent Oil and Gas Association. A native of Milltown, New Brunswick, Canada, Mr. Bennett was a graduate of the Massachusetts Institute of Technology. Survivors include his widow, Mrs. Marie Bright Bennett of Shreveport, La.; a daughter, Mrs. Forrest Lee Andres of Houston, Texas; two brothers, Joseph R. Bennett of Saint Petersburg, Fla., and R. H. Bennett of New Bedford, Mass., and three grandchildren of Houston."

We are also saddened by this report of the death of Joe Fouhy: "Joseph J. Fouhy, 57, unmarried, a resident of the Malden Y.M.C.A. for the past 18 years, was killed in Dartmouth (Mass.) yesterday (August 30) while making a cursory check of his auto on Route 6 near the State Police Barracks. He was pronounced dead of a fracture of the skull on arrival at St. Luke's Hospital after having been struck by a passing auto. Mr. Fouhy majored in Sanitary Engineering at M.I.T. and then took a post-graduate course at M.I.T. in Naval Architecture. He was employed by the Massachusetts Harbor and Lands commission from 1913 to 1915 as a surveyor-inspector; was with the Navy at Quincy in 1919 as a ships draftsman and naval architect; by the Boston and Albany as a transit man in 1918; with the Massachusetts Highway Department in 1916 as a plans inspector; then with the Pennsylvania Highway Department at Harrisburg from 1920 to 1923 as an inspector; Bell Telephone Company in Philadelphia from 1923 to 1925 as a telephone engineer; New Jersey Highway Department at Trenton in 1929 as a right-of-way inspector. He then entered the employ of the John Hancock Life Insurance Company in Boston and in 1935 was transferred to the Malden office of that company and later to the Wakefield office. He entered the state's employ September 29, 1948, as a senior engineering aide and in 1949 was made a junior civil engineer with the state department of public works, a position which he held up to his death. He leaves a sister, Mary Fouhy of Boston."

We regret also to report that we have received word, somewhat belatedly, of the death of Frank E. Drake, Jr., on October 18, 1952. No particulars were given. We would like to reiterate once again the words of advice of Ed Williams to take it easy in these, our "later" years. Slow down and enjoy life while there is still life left.

On behalf of the Class, your Secretaries would like to take this opportunity to extend deepest sympathy to the families of our deceased classmates.

Your Secretary recently was elected to the presidency of the Smaller Business Association of New England, Inc., to serve for a term of one year, and he was pleased to find Doug Robertson among those present and looking so well at the annual banquet of this association which was the occasion of his election.

We would like to close this column with a word of thanks to those of you who have replied to our request for news. It's a wonderful feeling to know that when the mailbag is empty, we can send out a hurry call for news and know that the response will be excellent. Even now, we have on our desk long and very interesting letters from Vert Young and Nat Warshaw which will have to wait until the next column. They, too, were very prompt in their response to our plea for news, but because of space limitations we'll have to hold over the major parts of their letters and only tell you that both are in good health and looking forward to seeing classmates at the reunions to come. See you next month, and thanks again. – RALPH A. FLETCHER, *Secretary*, P.O. Box 71, West Chelmsford, Mass. HAROLD F. DODGE, *Assistant Secretary*, Bell Telephone Laboratories, Inc., 463 West Street, New York, N.Y.

• 1917 •

A "virtuous and benevolent citizen" is apparently a rarity these days, but the Class of 1917 can boast of such a one. One hundred sixty-three years ago Benjamin Franklin presumed that such citizens would always be available in Boston and in his will directed that citizens of such character be placed in charge of the Fund which he left to the town. The multi-million dollar Franklin Foundation, as stated in Franklin's will, has continued to be managed by the Mayor of Boston, and "the ministers of the oldest Episcopalian, Congregational and Presbyterian Churches in Boston and eight other virtuous and benevolent citizens." However, a recent vacancy on the Board and the request for appointment of an "outlander" brought up a new legal point in Franklin's will, already subject of much litigation in Massachusetts courts. The Court was told by attorneys for the present-day managers of the Fund that "it is difficult to find in Boston today men of the type described by Benjamin Franklin who are willing to serve in charitable organizations." The presiding judge shattered precedent and appointed our own Al Lunn, who becomes the first non-Bostonian to serve on the Board. Although a resident of Cambridge, Al can be "found" at his offices in Boston.

Brick Dunham dropped in for his first official visit in Cambridge in 10 years – all the way from Waltham! Each of his twin daughters has presented him with a grandchild. He still works with Fritz Shepard, running the production operations of the Lewis-Shepard Products, Inc., in Waltham, and in his spare time he is active in Waltham Rotary.

Paul Gardner has resigned as active director of the William Rockhill Nelson Gallery of Art in Kansas City and has established himself on his ranch "Las Milpas" at San Patricio, N.M. Your Secretary received the following delightful word from him. The several members of the Class who are beginning to be interested in retirement will find it hard to beat, or even to match, the pattern Paul has established: "Yes, I have retired from the directorship of the Gallery though I have been retained by the Trustees for the next few years in an advisory capacity.

"I had always planned to retire as soon after 55 as possible, especially as I enjoy the active life here on my ranch and did not want to wait until I had to sit on the portal in a wheel chair. I find of course that I have not retired but merely taken on a new job as I am physically active every moment of the day. But I love it and know that I have lopped off a number of years already.

"My plans are to be here at Las Milpas spring, summer and fall and to travel in the winter. My first jaunt will be to Italy, to which wonderful country I sail November 11 to stay there all winter. Subsequent winters should find me getting back to Boston where I shall hope to see many of my old pals. I do hope if any of the Class come this way that they will stop off to see my paradise. Highway 70 runs through my place, and I am just 50 miles west of Roswell. And near enough

to the Mexican border to get down to Juarez frequently for the bullfights.

"Yes, the new buildings of the Midwest Research Institute will be quite near the Gallery and I hope they will be able to start the building soon. They are doing a wonderful job and the initial idea was one of the pet projects of one of my trustees, J. C. Nichols, now unfortunately dead, but with whom I had a wonderful service for almost 20 years.

"Hope all goes well with you, Ray, and my best to you and all classmates and before too long I shall find my way back to Boston and Cambridge." — RAYMOND STEVENS, *Secretary*, Arthur D. Little, Inc., 30 Memorial Drive, Cambridge 42, Mass. FREDERICK BERNARD, *Assistant Secretary*, 24 Federal Street, Boston 10, Mass.

• 1918 •

At long last, and after some distressing hours, to say nothing of abuse, Bill Wyer as trustee for the Long Island Railroad, has won his case. U.S. District Judge Byers approved the tax settlement agreed to by the city of New York but taken into court by the Attorney General of the state of New York in the hope of getting state control of the railroad. Judge Byers' opinion closes with the following reference to Bill Wyer: "I am satisfied that he is carrying forward a substantial, well-coordinated and practicable program of physical rehabilitation and that he will be able and intends so to do, and that any departure from such an established purpose will be promptly brought to the attention of the Court by those who have thus far proven themselves to be alert in detecting alleged lapses of administration. . . . "

From Richard Smith, who left M.I.T. a decade or so ago to found the Centro Tecnico de Aeronautica in Brazil, comes a good letter. With characteristic kindness he includes no word of the frustrations and difficulties thrown into his path by the Brazilian politicians and army officers once he had the school well organized and producing what they wanted. "My personal correspondence has suffered shamefully during my Brazilian service — but Marie and I have decided that we have done our bit for this land of the poor and underprivileged and that we should terminate our missionary work in Brazil and go home. So after declining a fourth contract to remain for another few years, we expect to sail on the Argentine *Rio de la Plata* which leaves Rio on August 12. Our U.S.A. address will be the Cosmos Club, 2121 Massachusetts Avenue, Washington. The pro and con ledger of our Brazilian experiences has many, many items on both sides but the total is black and big by a wide margin. The satisfactions of our Brazilian service — remembering that our satisfactions have always been service centered — have been enormous. We leave behind us as a permanent monument a modern high grade technical institute which is superior to M.I.T. in some basic respects, completely civilian, yet completely military in respect to the responsibility for its annual budget, in a new ultra modern plant whose architecture would surprise America's boldest architects and whose student body and staff, contrary to Brazilian tradition, live and work full time on the campus in an American type of professor-student democracy. What's more, our students are taught integrity, work habits, and material courage in this order of priority and come out as honest, as industrious, and as competent as M.I.T.'s best.

"Anyone who knows Latin America knows that this is a major revolution in education in this country. Also, our students have full living, tuition, and expense money scholarships for the entire period of good standing, all paid by the Air Ministry. Some of our boys appear without a stitch of clothing except for what is on their backs and much poorer than a New England church mouse. Yet these boys can graduate as professional men and take their places in Brazilian industrialization as leaders in their professions. At M.I.T. I used to award four or five tuition scholarships a year and felt magnanimous. In Brazil I, in effect, have awarded many thousands of full tuition, living and expense scholarships from admission to degree, down through the future years, and not to rich boys but to poor boys who need them. You can imagine how small my M.I.T. service now seems to me. And the same ratio applies to my indirect influence on national education. In the U.S.A. one professor — unless he is a genius which I am certainly not — cannot do much to influence the educational orientation of his country. But in Brazil I have been able through the I.T.A. to force the best technical schools in the country to reexamine their standards and curriculae and the quality of education they are giving, in order not to be left behind, and also to force the Brazilian high schools to upgrade their teaching and to install physics and chemistry laboratories and instructors under our I.T.A. guidance in order to enable their graduates to pass our admission exams. In fact, there is a national congress of high school science instructors in session at the I.T.A. right now receiving guidance and course material for their courses back home. And our professor of mathematics has already completely reoriented Brazilian mathematics, a reform which the American technical schools would like to make but cannot, excepting very slowly, because of established tradition, texts and obsolete professors none of which, incidentally, obstruct us.

"So the sense of achievement which we have had here relative to that which I had at M.I.T. is in the ratio of a mountain to a molehill and for this I am eternally grateful. . . . My best regards and regrets for not having written before."

Since our last reporting in these columns, word has come of the death of Frederick B. Smith, Jr., last July in Fort Lauderdale, Fla., where he was prominent for many years in the furniture business. He is survived by his wife and one son. — F. ALEXANDER MAGOUN, *Secretary*, Jaffrey, N.H.

• 1919 •

While our Committee have not made announcements as to the dates or place for our 35th Year Reunion, your Secretary is sure that there will be a real Reunion in 1954 and is sure that everyone will keep this in mind and make his plans so that he will be in a position to attend and enjoy this important event. Notices will be mailed out to everyone as soon as all of the many details have been established.

Glad to have word from Ben Bristol: "My son Edgar H. Bristol started at M.I.T. this fall, which is hard for me to realize. Time sure passes. Looking forward to seeing the gang next year. Otherwise, still living and working at the same old stand. See M. B. Lee fairly regularly." Ellwood Aldrich is now vice-president and chief engineer of American Water Works Service Company, in Philadelphia. Home address: 1 West Levering Mill Road, Bala-Cynwyd, Pa.

Arthur D. Little, Inc., of which Earl Stevenson is president, is expanding its activities in the midwest area and will open a new liaison office in Chicago. The manager of the new office is John R. Kirkpatrick, M.I.T., 1948. Earl's firm is currently carrying on an industrial development project in Egypt. The first phase, just completed, consisted of a study of the raw material resources, actual and potential markets and available industrial facilities and skills. The second phase, now under way, is to stimulate industrial developments, such as: pointing out fields of opportunities, recommending actions necessary to attract investments, suggesting projects for industrial development, and preparing general plans for advancing industrialization in line with the aims of Egypt's whole economic and social program.

Ray Bartlett finds that his business keeps him extremely busy, but he has now arranged matters so that his travel keeps him away from home no more than four days each week. Both his children are married and he has three grandchildren. He is looking forward to our 35th Year Reunion.

Harry Mardoian's son, Arthur, is a transportation officer stationed at Pusan in Korea. Harry expects to be at our Reunion next year. He sends the following good news about Harry Kuljian: Harry Kuljian has done honor to our Class by being the recipient of an honorary degree of Doctor of Engineering from the Drexel Institute of Technology last June. Harry is known as an internationally prominent consulting engineer, and his travels this fall have taken him, among other places, to India and Korea.

Edith Clarke is professor of electrical engineering at the University of Texas. During the summer she farms near Clarksville, Md. Wayland Bailey joined the staff of Arthur D. Little, Inc., last December, as a mechanical design engineer. The work is varied and interesting and the change is proving to be a happy one. His hobby is sailing; he recently acquired one of the "justly famous Dyer Dhows . . . just the thing for a quick sail, and often, on the river which runs by my home." The daughter is married and the Baileys are grandparents now. Their son is entering medical school, having finished pre-med training at Bowdoin. The Baileys' new address: Box 37, Norwell, Mass.

From Bernard Coleman: "Mrs. Coleman and I have just returned from Hawaii, where we had a most glorious vacation. Our son, Kenneth, who graduated from U.C.L.A. in June, in the field of public health and hospital administration, manages two sanitoriums beautifully. We expect to be grandparents in January. Will the name carry on? Taking bets. Community Chest, Welfare Council, Chronic Illness Committees keep me busy. Nor have I given up the piano, but my composing is poor. See you in June." — EUGENE R. SMOLEY, *Secretary*, The Lummus Company, 385 Madison Avenue, New York 17, N.Y.

• 1920 •

It is our sad duty to report the untimely death of Jim Downey. He passed away at his home in White Plains on October 4. The Class won't seem quite the same without Jim. Certainly reunions will suffer severely from the loss of his sparkling presence and genial personality. He had a long and distinguished career as an efficiency engineer and labor relations expert. We honor his memory and shall miss him sorely.

I must also report with deep regret the death of Paul H. Duncan of Arlington, Mass., of Course IV. For 18 years Paul was employed by the American Mutual Liability Insurance Company in Boston, and he was a member of the Massachusetts Society of Architects.

Dan Whelan was recently appointed Dean of the Loyola College of Engineering. Dan was a professor of civil engineering at Loyola up to about 10 years ago and then served with the Navy and the Coast and Geodetic Survey. Russell Peirce of Newburyport, Mass., has a son entering M.I.T. this fall. Stan Bragdon's new address is 215 Menomonee Avenue, South Milwaukee, Wis. Don Graves is now in Los Angeles, address 6509 West 83rd Street. Harry Kahn, the noted ceramist is now living in Uxbridge.

Perk Bugbee reports a pleasant visit with Ken Clark in New York City. Ken is vice-president in charge of the Building Products Division of Johns-Manville. On the day these notes were written I ran into Harold Seavey and can report that he is little changed from undergraduate days. He still has all his hair and he has a fine mahogany complexion resulting from a good deal of time spent on his boat last summer. Harold runs Seavey and Company which supplies the interior decoration trade in this vicinity.

A tip to those of you who have not yet ordered the M.I.T. Wedgewood plates designed by Sam Chamberlain'18. These plates are both useful and ornamental. They are available at a real bargain price, and any one of you would be proud to own them and show them to his family and friends. — HAROLD BUGBEE, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

• 1921 •

You have the report of the 12th annual Alumni Fund, carrying with it the appreciation expressed by President Jim Killian '26, for the new all-time high which was established. Our thanks go to Class Agent Ed Farrand for a superb job. No better form can be used to frame them than a prompt contribution to the Fund for the current year. The 1952 report shows the Class of 1921 to be 25th in size of active class roll (811) of the 58 individual Classes from 1896 to 1952, with the seventh largest amount contributed for 1952 and the ninth largest in total giving since the Fund started in 1940. We are 12th in number of contributors during the year, in a three-way tie for 23rd place in the percentage of the Class contributing and 24th in the size of the average contribution.

On the subject of funds, it is of particular interest to note that the Jakobson Scholarship has been established at the Institute by the Jakobson Shipyard, Inc., Oyster Bay, N.Y., of which Irv Jakobson is president. This is an annual freshman scholarship award, with a grant of $1,000, first preference to be given to a son of an employee of the shipyard and next to graduates of high schools in Long Island areas, particularly those in close proximity to the yard. Technology has acknowledged a further gift to increase the fund established in 1930 in memory of the late John A. Grimmons, income from which is available for loans to undergraduates in Course VI and for equipment for the Department of Electrical Engineering. A second Grimmons Fund, established last year, provides for scholarships, with preference for those in Course VI.

Herbert C. DeStaebler, Vice-president of the Lambert Pharmacal Company, St. Louis, Mo., writes, in part: "On the way back from a recent trip to Guatemala, I had the pleasure of meeting Viviano L. Valdes, consulting civil engineer of Mexico City, and his lovely wife and talented family of two boys and two girls. When we arrived home, my youngest, Stephen, Princeton'54, who had been with me, was telling friends how beautifully these young ladies played the piano and the comment was: 'They must be the Valdes girls; we have heard of their concert abilities.' I dropped by the Cape one Sunday evening and had a delightful shore dinner with Channing N. Baker at his home in Harwich Port, complete with Indian pudding for dessert. Hobey hasn't changed a bit and his hospitality is equalled only by Mrs. Baker's. Also felt a hankering to see my old summer camp tent mate, William Forrester Clements, and went to see him in Cleveland one night. Clem is just fine. We went to call on A. Ilsley Bradley and Henri Pell Junod'23, who also live in Cleveland Heights, but they must have been away on vacation. From the looks of their mailboxes, they were both having extended trips. Mrs. Jacques J. Bronfenbrenner, who was with Lambert as a chemist, left us last year to accompany her husband to Winston-Salem, N.C., after he retired from Washington University. I am sorry to have to tell you of his death, as reported in the attached clipping." On behalf of the Class, we extend sincere sympathy to Mrs. Bronfenbrenner, and to the surviving son and daughter. On a recent trip to Boston, we learned that Henry R. Kurth, Assistant Vice-president, Boston Edison Company, was scheduled to be hospitalized and we hope he will have entirely recovered long before this appears in print. A call to our Alumni Day master of good cheer, Edward T. Steffian, at his architectural office, found him away on business. Richard McKay has returned to the Boston area from Washington, D.C., and his home address is 50 Victoria Circle, Newton Center 59, Mass. Walter A. McKim's new home address is 231 Tyler Lane, Louisville, Ky. Promotion to colonel has been announced for Philip M. Johnson, who is currently assigned to the headquarters of the First Army at Governor's Island, N.Y. Thomas H. Frost, a commander, has been assigned to the Naval Research Laboratory, Washington, D.C.

Here's wishing you and yours a very Merry Christmas and a most Happy New Year. — CAROLE A. CLARKE, *Secretary*, Federal Telecommunication Laboratories, 500 Washington Avenue, Nutley 10, N.J.

• 1923 •

Items regarding the Class are scarce this month. Apparently the members are too busy making history to write about it. There were no press clippings from the M.I.T. News Service and we had only one letter — Bob Shaw wrote Ollie Hooper: "Thank you and the Class for the engraved sterling cigarette box with the inscription giving my term of office 1922-1953. As I stated at the Reunion, it is quite a record to have the friendship and loyalty of such a fine group as '23 over these many years. I also pointed out that the boys made one other person, Pappy Shaw, very happy, for the Class of 1923 and the Institute were very important parts of his life. Since it is practically impossible for me to thank each member of the Class personally, will you kindly forward this letter to Howard Russell with the suggestion that he put it in an early edition of the class notes in The Review."

Richard L. Bowditch, as the new President of the U.S. Chamber of Commerce, is busy making speeches at Chamber of Commerce and other meetings throughout the country. Robert C. Sprague has accepted appointment on one of President Eisenhower's special commissions. No trace has yet been found of Harold B. Golding who disappeared on an airplane flight to Costa Rica, July 17.

The Alumni Register continues to send in changes of addresses — why not write the Secretary a letter so he can tell the Class what they mean? Our new President, Jack Zimmerman, hopes to persuade the 30th Year Reunion Committee to prepare a more detailed description of the affair for the benefit of those who were unable to come. — HOWARD F. RUSSELL, *Secretary*, Improved Risk Mutuals, 15 North Broadway, White Plains, N.Y. WENTWORTH T. HOWLAND, *Assistant Secretary*, 480 Walnut Street, Newtonville 60, Mass.

• 1924 •

The time, Friday, Saturday, Sunday, June 11-13; the place, the Sheldon House, Pine Orchard, Conn. That's for our 30th Reunion. Probably by the time you read this you will have had detailed dope from the Committee. If not, you will soon. In any event mark this one up on your calendar. And, for the first time in our history, plan to bring your wife.

Editor and part-author of the first published book on the subject of transistors: Richard F. Shea. *Principles of Transistor Circuits* was published this fall by John Wiley and Sons. Dick is General Electric's particular expert on this vitally important subject. Another author takes to the road; Vincent E. Lysaght addressed a symposium in England last month on "The Hardness Testing of Sheet Metal." Vin has written a book on this same subject. He is sales manager of American Chain and Cable's Wilson Mechanical Instrument Division.

Never let it be said that we don't give you the news, no matter how late. Last month we announced that H. Clifford Bailey had a new job with DuPont in New Jersey. Seems we were a bit behind the times. That one happened three years ago! But Clif does have a new one, now, as of September 24. He's manager of DuPont's new plant near Beaumont, Texas. Won't go into operation until next fall but then he'll be synthesizing methionine, "an essential amino acid of nutritional value as a feed supplement for poultry and other animals." Well, we're up to date on Clif, anyhow.

A note from Rock Hereford clarifies his work as assistant to the vice-president and general manager of Consolidated Western Steel, a steel fabricating division of United States Steel. "I am," says Rock, "sort of in charge of miscellaneous." Among the miscellaneous items he handles, high-strength large-diameter line pipe. That's Big Inch pipe.

Couple of fascinating address changes recently, but no further details as yet. Mrs. Elizabeth M. Pierce is no longer at the Farm Bureau Office in Milford, N.H. She can now be reached at Cuttack, State of Orissa, India. And Hamilton B. Page has left Hermosa Beach, Calif., for the banks of the Seine. He's with the Mutual Security Agency in Paris. Paul Cardinal's oldest daughter has just made him a grandfather for the second time and the engagement of his second daughter, Joan, was announced in September. Paul's letter detailing these vital statistics ends in typical fashion, "We had a great summer and the vitamin business continues booming."

Appointment of the new members of our expanded Executive Committee continues apace. This too will be detailed in a regular class letter, so it will not be repeated here. Suffice to say that this increased activity in our second 25 years is a good omen.

Here's one to make you feel young all over again. Max Ilfeld, after 30 years of dealing with the public in his Taos, N.M., store, has retired. Turned the business over to younger members of the family. But Max hardly thinks he would enjoy sitting around letting his arteries harden, so he's starting a new venture, a one-man architectural office; small houses, small stores, that sort of thing, and since he's been away from a drafting board for a couple of decades he needs a refresher so believe it or not, next fall he returns to M.I.T. as a student! Max, you know, was the first member of the Class to have a son at the Institute. He graduated in 1944. Now, he has a seven-year-old grandson who is also headed this way. If he would just wait a bit longer, he and his grandson could enter together.

So much for the moment, but don't forget to mark those June dates on your calendar. – HENRY B. KANE, *General Secretary,* Room 1-272, M.I.T., Cambridge 39, Mass.

• 1925 •

Even if some of you feel that it is too early to begin thinking of our 30th Reunion, President Ave Stanton disagrees. June of 1955 will be here before you know it, and initial steps are already under way to make the 30th a bigger and better reunion than the 25th. Against his better judgment, Doc Foster has agreed to serve as chairman of the 30th Reunion Committee. The following are considered as forming the nucleus of the committee: Ave Stanton, Sam Caldwell, Chink Drew, Fred Greer, Ken Robie, Frank Turnbull, Greg Gregory, Wally Squire, Fred Rice, Jim Howard, Ed Kussmaul, Sam Glaser, Bob Ashworth, Wally Westland, Tom Price, Ronnie Mitchell, Don Henderson and Carl Mabley.

Don't feel that you are immune if your name is not included in this list. The 25th Reunion was handled with a relatively small committee but for the 30th the responsibilities will be spread much wider and any of you may expect to hear from members of the committee in the near future. Several of you will recall having been appointed 1925 outposts at the time our 25th Reunion report was issued. As a reminder the names of the outposts are listed herewith: Charlie Boardman, Alex Brown, Harrison Browning, Bob Dietzold, Myron Doucette, Dow Drukker, Frank Fricker, Ralph Gow, Fred Grantham, Harry Karcher, Tom Killian, Frank Klein, Fred Kranzler, Stan Lane, Warner Lumbard, Russell Meyerand, Art Olson, Emerson Patten, Frank Preston and Joe Russell. Rest assured we intend to make use of all of this group.

The principal news items in this report cover the wanderings of a few members of Course III. Your Secretary spent about 10 days on the West Coast during the latter part of August. The main purpose of this trip being to attend a conference on the administration of research held at the University of California at Berkeley. Thanks to the efforts of Don Severance '38, I had the pleasure of meeting with both the Los Angeles and San Francisco M.I.T. Clubs and endeavored to give them an insight into the sponsored research operations of the Institute. One of the high lights of the trip was a chance meeting with George Blonsky who was in Los Angeles busily engaged in purchasing equipment for use in bringing the Wothree Mines into operation. George is general manager of the Wothree Mines which are located some 75 miles southeast of Kingman, Ariz., with Kingman being the nearest town. Any of you who remember the Count's ability to tell a story can rest assured that his experiences during the past 25 years or so have simply increased his repertoire and his ability to entertain with his story telling. He still goes for Chinese food in a big way and we spent one evening together at his favorite Chinese restaurant in Los Angeles. At the conference in Berkeley, I found Tom Killian attending as representative of the Office of Ordnance Research.

When it comes to roaming, Irving Symonds has recently been "on the go" during the past several months. After several trips back and forth between Monterrey, New Mexico, and New York, he set off for Africa during the early part of July and was on the go until sometime in October. He was to spend a short time in London, Paris, and Rome, as well as in some of the cities of Africa. Most of the time he was to be in the various mining camps of Northern Rhodesia, the Belgian Congo and the Union of South Africa.

A little news regarding Ken Robie. A few weeks ago he and Mrs. Robie celebrated their 25th wedding anniversary, and many of their friends honored them with a surprise party. Some of those present remembered Ken's prowess in target shooting and got him out to test his eye only to find that after many years he is still a crack shot. We have reason to believe that he probably does a little practicing on occasion. The Robies recently announced the engagement of their daughter who, it is expected, will be married in the near future.

Among the address changes which arrived this month is one for Walter D. Siddall, VI, whose new address is with the Federal Telephone and Radio Company at Clifton, N.J. The previous address that we had for Walt was Madrid, Spain. It would appear that further information regarding this change should be supplied the Secretary.

It is with sorrow that we report the death of Clarence J. McDonough, Jr., IV, at Loudonville, N.Y., April 20, 1953. No further details are available. – F. LEROY FOSTER, *Secretary,* Room 5-105, M.I.T., Cambridge 39, Mass.

• 1926 •

I wonder if any of you have the bad habit of going out to the tool shed for a screw driver to fix a switch your wife has been complaining about, then seeing the power lawnmower off in the corner. You remember that it is now three years old and the head has never been off the engine. Pretty soon the lawnmower is all apart and the screwdriver and switch job are completely forgotten. Well, I know better than to take the power mower apart or even to try to fix a switch but I have been doing something equally as foolish, and had I not awakened, these notes might never be written.

I had spread out the newspaper clippings about '26 men to plan my notes and I came across a story about Lucius E. Jenkins. I couldn't place him so I dug out the old *Technique* – his picture was not there but there was a picture of Charles F. Jenkins whose face I did remember, so I looked him up to find that he was in the deceased part of the Alumni Register. Then I noted Doug Jeppe's picture on the same page and looked up to see where he is located (he's with Ethyl Corporation in N.Y.C.), and I lapsed off into a most enjoyable pastime. I had checked at least a dozen classmates' pictures in *Technique* against their present whereabouts before I realized that the class notes were not even

getting started. I also find that with all my ramblings about the activities in Pigeon Cove I have been neglecting my job of reporting the activities of our classmates. Therefore, this month I shall tell you what a lot of our friends have been doing to get their names into the news — and it's all printable!

We may as well start by finishing the story about Lucius Jenkins who is in the news because he was recently appointed head engineer of the Navy design section at the Electric Boat Company in New London, Conn., a well-earned achievement after spending more than 25 years as a civilian employee of the Navy Department. Another piece of Navy news appeared recently about one of our post grad classmates who came to the Institute from Annapolis, Captain F. H. Whitaker. A news release stated that he was number one on the list for promotion to rear admiral and presumably this has happened by now.

Those of you owning Alumni Registers may have wondered if Ernest Warburton had become a gentleman farmer for only his address is listed and that states "Ward Farm, W. Main St., Westboro, Mass.," but do not be misled — that just happens to be his permanent address. Upon graduating from the Institute, Ernest received a second lieutenant's commission in the Air Service Reserve and was called to active military service in September, 1926, and this became his career. In August, Ernest, who is now Brigadier General Warburton, was named Chief of Staff for the Tactical Air Command after a long and brilliant career in the Air Force. In the clipping there was a picture of Ernest in his Air Force uniform with scrambled eggs on the cap visor, and so on; he looks as though he would give Ezio Pinza a run for his money any day. In the late spring but too late for last season's notes came the announcement of Cecil Ogren's wedding to Miss Hildur Hakanson of Melrose, Mass., at Melrose. Cecil, as you recall, is civilian director of procurement at the Watertown Arsenal. For the Class, congratulations to the Ogrens who will live at 88 Sheffield Road in Melrose.

Good news has arrived about Guy Frisbie, who a little over a year ago was elevated to vice-president-secretary of the Hobart Manufacturing Company in Troy, Ohio; at the annual shareholders' meeting this year Guy was elected to the Board of Directors of Hobart for the first time. Nice going, Guy! A news release this summer tells of the appointment of Leo Teplow as industrial relations consultant of American Iron and Steel Institute, New York. Leo has a shining record in this field and has served as assistant director of public relations for N.A.M. and as special assistant to the chief of the E.C.A. Mission in Italy. Our ecclesiastical classmate, Arthur Riley, is now the Very Reverend Monsignor Arthur J. Riley, having been elevated to the Monsignori by the Pope recently. We wrote Arthur a note of congratulations and learned that he had been deathly ill with pneumonia at the time of his elevation, but the good news apparently helped his recovery for he is back at his historical work in New Haven for the Knights of Columbus. You will recall that Eben Haskell suffered a similar illness earlier in the year; is there a '26 jinx in New Haven? I am sure not.

Interesting news about Jay Goldberg has arrived from many quarters including British Textile journals. Jay resigned as research director of J. P. Stevens and Company on July 1 and has opened offices at 11 West 42nd Street, New York City, to provide technical consulting services to the textile and allied industries. With his vast experience and capability we know he will be most successful in the new venture and we extend the best wishes of the Class. While on the subject of textiles we note that Giles Hopkins has written a book entitled *Wool, As An Apparel Fiber.* Hoppy, who is technical director of the Wool Bureau, is well qualified to write such a book and we wish him well. A letter arrived not too long ago from Win Russell to advise that he is now located with Jackson and Church Company, Saginaw, Mich., where he is working on a test program for an improved model of airplane catapult. At the time of his letter Win was maintaining his home in Glenn Rock, N.J., with his youngest son in Junior High School, his second son at the University of Wisconsin and the oldest boy with the Air Force in Germany. Time out — some one has just pulled the rope on our ship's bell. It was Kathy, the six-year-old daughter of a Pigeon Cove fisherman. Kathy had three fresh mackerel on a platter which she and her three-year-old brother were peddling.

Now let's see who else we have to tell you about. A note on my desk in late September stated that Elton Stapes of Milwaukee had been in Boston and phoned — mighty sorry to have missed Elton but that happened to be a week of meetings and I was out of town. At about the same time we found Howard Humphrey's card under our door at Pigeon Cove with the note, "Sorry to have missed you. We are on our way home, after leaving our son John at Bowdoin. Your place is grand." (I couldn't very well leave off that last sentence.) Your Secretary is terribly disappointed to have missed these two visiting classmates and hopes that they and others will continue to drop around. On a recent trip to Wilmington I 'phoned Bill Vaughan at Media, Pa., and he met me at the Philadelphia airport and we drove out to his home. We spent a pleasant evening reminiscing while his son Doug, a high school student, practiced with a football outside in the dark. Billie, his wife, brought in some delicious looking sandwiches which I could not touch having eaten on the plane. I couldn't resist her homemade cookies, however.

We still have lots more to tell you but must hold it for next month. By the time you read this issue you will probably have thrown out your October issue of *House Beautiful* but in case you still have it there are some pictures of our recreation room on page 279. This is going to be my earliest Christmas greeting (the notes being due October 19) and is made while we are having Indian summer. May each of you and your families have the most pleasant holiday season on record! Merry Christmas! We will be back next year. — GEORGE WARREN SMITH, *General Secretary,* E. I. du Pont de Nemours and Company, Inc., 140 Federal Street, Boston, Mass.

• 1927 •

A recent letter from Carroll C. Bailey gives us the following news: "As to my business activities, I am associated with Paine, Webber, Jackson and Curtis as a member of the Research Department specializing in mining and metal securities. In that connection, you may find some interest in a paper entitled 'Financing Domestic Mining Ventures' in the preparation of which I collaborated, and which I presented before the American Institute of Mining and Metallurgical Engineers in Los Angeles last February." His new address is 31 Ocean Terrace, Normandy Beach, N. J.

Phil Creden of the Edward Hines Lumber Company, Chicago, one of the nation's best known public relations men in the lumber industry, has been promoted from advertising manager of the firm to director of public relations. It is a well-earned promotion and the congratulations of countless friends all over the entire country have been pouring in. He is widely known for his frequent appearances as a public speaker and his activities in promoting the welfare of the building industry. Currently he is chairman of the public relations committee of the National Retail Lumber Dealers Association, member of the executive committee of the Lumber Dealers Research Council, and chairman of the program committee of Ponderosa Pine Woodwork. Under his direction the Edward Hines Lumber Company became the largest user of newspaper advertising amongst the nation's lumber dealers. He has also developed the well-known and highly successful television show, "Walt's Workshop" which has been aired over NBC-WNBQ for the past four and a half years.

Morris Leonard, Dorchester, Mass., has been unanimously elected chairman of the Dorchester-Mattapan business team of the Combined Jewish Appeal, according to Alvin C. Tamkin, chairman of the Districts Division of C.J.A.

On October 21, 1953, David G. C. Luck of R.C.A. Laboratories received the Stuart Ballantine Medal of The Franklin Institute of the State of Pennsylvania. He was awarded the medal "For his invention of the Omnidirectional Radio Range, an essential element in present day air traffic control," as reads the citation accompanying the award. Presentation of the medal will be part of the Medal Day ceremonies held annually at The Franklin Institute. An omnidirectional radio range system was developed and field-tested by Dr. Luck and his associates in the Radio Corporation of America during the years 1935 to 1940. The function of this system is to provide for pilots of aircraft direct, automatic indications of the true bearings of their craft from the range station on the ground. Dr. Luck is the author of a text on Frequency Modulated Radar and has been granted over 60 patents for devices in the radio field, most of which pertain directly or indirectly to direction finders or navigation aids. He has taken part in the work of R.T.C.A. committees studying various problems of air navigation and traffic control, and has been active as well in the study of color television systems.

A news bulletin from Johns-Manville Corporation gives us the following information: "Edward H. Wells, 34 Richmond Drive, Darien, Conn., Assistant to the Merchandise Manager of the Johns-Manville Industrial Products Division, was one of 34 members of the company inducted last night (September 17) into the Quarter Century Club at a dinner at the Hotel Roosevelt, N.Y.C. His career with Johns-Manville began in April, 1928, in the N.J. plant. Since that time he has held various positions in the Transportation Department including that of Chief Engineer and in 1948 Product Manager for the company's Friction Materials Business. In December, 1952, he was promoted to his present post. He is married and has two children, Stephen and Mary Wells."

Charles H. Tedford writes to tell us that he has been appointed general manager of the Baltimore House of Butler Brothers. He has been with Butler Brothers since 1938 and has progressed through several positions from field supervisor on up and is thoroughly acquainted with all phases of the business.

The M.I.T. Club of Northern New Jersey have elected the following members for the present year: G. D. Jackson, Jr. (President), R. P. Westerhoff (Secretary), D. H. Spitzli and E. C. Hinck (Board of Governors), and G. J. Saliba and John Drisko (Committeemen).

It is with a great deal of sadness that we tell you of the death of Lester E. Payne, famed engineer who died in Weymouth, Mass., on September 24. He had been serving as consulting engineer for Jackson and Moreland Company of Park Square. — JOSEPH S. HARRIS, *General Secretary*, Shell Oil Company, 50 West 50 Street, New York, N.Y.

• 1932 •

We have got quite a variety in distribution of our classmates in the news this month. Ken Smith reports in from Butler, Pa., where he is senior mechanical engineer for Armco Steel Corporation. He married Betty Tatterson, a Wheelock girl from Portland, Me., in 1934. They have three children, Tat, Gil and Judy, 17, 14 and 10 respectively. Ken does more than his part in community affairs. He is advisor to Junior Achievement; Boy Scouts; Citizens Committee for Better Education (grade schools); and P.T.A., but seems to get some time for recreation on the golf course.

Take it easy when driving through Middlesex, N.J. Charlie Bradley is magistrate of the Municipal Court there. Or better, if you do get caught, get a hold of Charlie. He does this in his spare time from his job as chief of Physics Section of the Johns-Manville Research Center in Manville, N.J.

Howard M. Quigley is head of the School for the Deaf, Faribault, Minn., Minnesota's only residential state school for the deaf. He is also currently president of the Conference of Executives of American Schools for the Deaf. As one would suspect from this kind of responsibility, Howard is very active in community affairs and other outside interests. He is president of the Civic Music Association, chairman of the Red Cross Annual Drive Committee, past district governor and past club president of Rotary and is active in church, Rotary and other groups. He married Dorothy Hay in 1933, and they have one boy, Thomas Hay, aged 18.

Elwood Schafer has made the news again by becoming assistant to Charles F. Stromeyer, Vice-president in charge of manufacturing and engineering at CBS-Hytron, where he will have major responsibility in planning expansion of the firm's TV tube manufacturing facilities, including operation of a color tube pilot plant.

Frank Carboine is another one of our stalwarts working for Uncle Sam. He is district engineer for C.A.A., living at 23 Glenwood, Augusta, Me. He married Mary O'Connell in '35 and they have one boy, Francis, Jr., 17, who is headed for M.I.T. '59 and a daughter, Mary Rita, 13. Frank reports he has given up tennis, but flies for a hobby, also likes to fish, play bridge and penny ante.

Eric Newman strayed from engineering. He is secretary of Edison Brothers Stores, Inc., with principal legal responsibilities. With his wife, Evelyn Edison, and two children, Linda, 12, and Andrew, nine, he lives at 6450 Cecil, St. Louis, Mo., and has for hobbies, coin and currency collecting and foreign travel — lucky fellow!

We have mentioned Bunny Nealand in our class notes several times, but only as one of the conscientious class officers. Bunny is living in Needham, Mass. He is manager, Office of Laboratory Supplies. He married Eleanor Davies in 1939 and now has a family of three children, Judith, 12, Gregory, nine, and Patricia, six. Bunny is also active around Needham. He is a member of the Needham Taxpayers Association, on the Needham High School Building Committee, and takes a keen interest in the Needham Sportsman Club, where we understand he is one of the real experts at fly tying.

Edward Poor reports in from Augusta, Me.. address, R.F.D. 5. Ed is a chemist for Hudson Pulp and Paper Corporation. He is active in TAPPI and has photography as a hobby. Ed got started late with his family, marrying Dorothy Bartko of Stamford, Conn., in '48. They have one child, Alice, aged two.

From far off Spain we have heard from Juan Serrallach. He is general manager and majority share owner of Laboratorio Super S.A., a research organization in the field of pharmaceutical chemistry that can point with pride to numerous patents licensed to German and Swiss firms. Juan likes to paint, also fish, with emphasis on underwater fishing, and has kept up his music with the piano and accordion.

We have heard from two members of our Class from the distaff side. Katherine Sarabia married O. Mason Burrows, M.I.T. '31, and lives at 13 Highland Avenue, Holden, Mass. They have two boys, Robert Mason, 13, and Thomas Miller, 10. Katherine puts her technical training to good use, we are sure, in the many local activities she lists.

Marjorie Fuller warms your Secretary's heart in stating that because of her five years in the office of the Technology Review, she learned to appreciate the difficulties Class Secretaries have in getting the real good information about their classmates that is available. Marjorie was only a part time student at Tech, but probably knows more about the Institute than the rest of us with her work on The Review. She is currently a librarian at the Ferguson Library, Stamford, Conn., and has a long list of civic activities on her agenda. — ROBERT B. SEMPLE, *Secretary*, Box 111, Wyandotte, Mich. *Assistant Secretaries:* WILLIAM H. BARKER, 45 Meredith Drive, Cranston, R.I.; ROLF ELIASSEN, Room 1-138, M.I.T., Cambridge 39, Mass.

• 1933 •

Several members of our Class have recently appeared prominently in the news. For example, Emile Bustani recently came to the United States for a visit from Lebanon where he is chairman of the board of Contracting and Trading Company, the largest Pan-Arab firm in the Middle East. His extracurricular activities include the presidency of the Alumni Association of the American University of Beirut from which he graduated before coming to the Institute. He has served as a leading member of Lebanon's Parliament. He is well known for his philanthropic efforts in making a grant to the Hospital Wing of the American University of Beirut and in establishing a scholarship fund for engineering students.

Captain Joseph L. Bird, who was here with us as a postgraduate student in Naval Construction, has assumed the post of Naval Inspector of Ordnance and Supervisor of Shipbuilding at the Fore River Yard. Captain Bird has recently been on assignment in San Francisco. He will have responsibility for over 40 contracts covering 600 vessels being constructed by 15 contractors in Massachusetts and Rhode Island.

Early this fall the Boston *Herald* published five biographical sketches of young men representative of New England's new type of industrial leaders. Dick Morse as President of National Research Corporation was one of these. A well-deserved honor. Dick also broke into the news locally as a speaker at a recent meeting of the Young Presidents' Organization here in Boston on the subject of the role of industrial research in today's economy. Your Secretary is one of the charter members of the organization which is limited to men who became presidents by 39 years of age of companies doing at least a million dollars a year in sales. The fact is that George is vice-president of the organization. As you all know through other reports in The Review, Dick Morse is currently vice-president of the Alumni Association. Speaking of success stories, did you see the article in the July 18 issue of the *Saturday Evening Post* in which our Bill Barbour came in for appreciable publicity for his initiative, imagination, and industry in organizing Tracerlab. Bill was characterized as "round faced and sandy-haired," with a good picture to prove it.

As a final item for this month, let me remind you of Lou Flander's recent letter as Class Agent. Lou displays a variety of talents in addition to his outstanding service as Class Agent. He faithfully represents the Class on the Alumni Council,

works with great energy and imagination with his local civilian defense group and fills the master of ceremonies spot to the delight of all at every class affair.

Most pleasant season's greetings to you all from your Class Officers. — GEORGE HENNING, *Secretary*, 330 Belmont Avenue, Brooklyn 7, N.Y., ROBERT M. KIMBALL, *Assistant Secretary*, Room 24–105, M.I.T., Cambridge 39, Mass.

• 1934 •

When June rolls around this coming year we will have been out of the Institute 20 years (where did they go). Of course, that heralds our 20-year Reunion and your Reunion Committee is now working to make it the biggest and most enjoyable we have had. The place will be the spacious resort hotel, Wentworth-by-the-Sea, at Portsmouth, N.H., long famous for its hospitality, New England charm and excellent cuisine. The location was chosen not only because of the complimentary acclaim given it by other Technology classes holding their reunions there, but because of its proximity to Cambridge and the Alumni Day festivities. It is 60 miles from Technology and is easily accessible by automobile, train, or plane.

If our attendance runs close to that of the last few classes holding their 20th reunions, we should expect at least a hundred of our classmates to be present. There will be a full program for the week end starting Friday afternoon and ending Sunday evening. You will receive a letter shortly giving a preview of the entertainment that is being planned. June may seem a long time away, but before you know it, it will be creeping up on you. So start planning now for the biggest and best "Take-me-back-to-Tech" we have had.

It is with great regret that we announce the death of Arthur A. Berstein, 38, of 63 Linden Avenue, Swampscott. He was owner of one of the largest retail advertising agencies in Boston. He died suddenly at his home on September 12.

Roy G. Fugal, Manager of Employment Practices for the General Electric Company recently gave a talk before the American Society of Tool Engineers at Athol, Mass. His subject was "How Industry and Education Can Cooperate in Achieving Common Goals."

The directors of the Standard Oil Company of Indiana have elected Robert C. Gunness to a place on the board recently vacated by a retiring director. Bob is assistant general manager of manufacturing and will continue in that position. After graduation Bob remained at M.I.T. as assistant professor of chemical engineering for two years. In 1938 he joined the staff of Standard's research department at Whiting, Ind., as a group leader. He advanced to assistant director of research in 1943, associate director of research in 1945, and manager of research in 1947. In 1952 he was shifted to his present executive position in the company's manufacturing department.

Henry N. Andrews, Jr., Dean of the Washington University School of Botany, received a one-year grant of $2,700 from the National Science Foundation, Washington, D.C. The grant will be used to continue research and field work which he has been doing for several years on coal ball floras in the central coal fields.

Robert M. Franklin, engineering section head for systems in the Radar Engineering Department at Sperry Gyroscope Company, presided recently at a joint meeting of the Transportation Division and Power and Industrial Division of the A.I.E.E. The subject was "Plans for Expansion and Modernization of the New York City Transit System."

Eric J. Isbister, engineering department head for radar at Sperry Gyroscope Company, recently published an article in *The Pulse* of the Long Island Section of the I.R.E. entitled "Good Engineers Wanted." Sydney Nashner was recently named assistant to president of the Sherritt Gordon Mines, Ltd. He was formerly associated with Chemical Construction Corporation and was responsible for the design of the new Sherritt Gordon Nickel Refinery at Fort Saskatchewan, Alberta.

A. C. Garland, a native Cape Codder and cranberry grower, has become the National Cranberry Association's research chemist. Charles W. Finnigan has been appointed chief electronics engineer of the Stromberg-Carlson Company. He originally joined the company in November 1941. — JOHN G. CALLAN, JR., *General Secretary*, 184 Ames Street, Sharon, Mass.

• 1937 •

As we break into print for this year, I am reminded of a very nice meeting with Ralph and Sanna Chapin in Batavia, N.Y., in early June. They live in a picturesque spot next to a mill pond and race. In fact, the house is made over from the old mill and is certainly beautifully done. Ralph's business is that of manufacturing household, garden and industrial hand sprayers. He certainly threw out the welcome mat for me during the few hours that I was there. Incidentally, I was on my way through to Detroit. I get out that way and to Chicago two or three times a year and would be glad to get together with any of you fellows, if you will let me know where to reach you. Later, Ralph wrote that Jim Pearce had stopped off on his way back to Cincinnati. Jim is a partner in a patent law firm and is doing quite well.

We were most distressed to get Joe Heal's resignation from the chairmanship of the Class Gift Committee. The uphill struggle has been discouraging to say the least with competition coming from both the Alumni Fund and the Development Fund. However, I believe everybody concerned will agree that Joe has done a very fine job and deserves our sincerest thanks. As an example of the discouragement, Bob Thorson wrote that the results from a mailing he made were a card from one fellow and a letter from another.

Bob attended the alumni banquet and had a swell time — in his words. At his table were Irv Tourtellot (with Lester Gustin Company, structural steel engineers in Boston), Harry Goodwin (with Battelle Memorial Institute in Columbus, Ohio), Walt Wojtczak (in construction business in Hartford, Conn.), Al Woll (in oil development in Chicago, I believe), John Nugent (Bob says he still looks the same — must be because he doesn't have the cares of a married man!), Curtis Powell (a professor at the Institute; Bob found out that the undergraduate is just about the same fellow as when we were there) and Peter Kolupaev (I am sorry I don't have any information on what he is doing — perhaps he can fill in for us). Bob also heard from Robert Brauer. It seems that Bob is with Standard Oil of Indiana and is the proud father of two boys and three girls. Bob closes with a note that "The alumni banquet is a swell affair for all the classmates to plan on each year. Maybe we should talk it up in The Review and try to get 25 of our Class at the next one."

In Joe Heal's campaign he received an interesting note from Norm Tompkins who is at 79 Whitman Avenue, Melrose 76, Mass. We certainly missed him at the Reunion and were sorry that he couldn't get there but he said: "Did get to the dinner and saw several old friends. I was able to spend part of the day with Tom Hallenbeck, his wife and two sons. I had not seen Tom for more than 10 years and was surprised to learn that he had come off second best in a bout with poliomyelitis. Since then I heard, I think through Walter Hughes whom I see occasionally, that he had broken his leg accidentally. All in all, I think he has cause for a mild gripe. Tom still lives in Toledo and I know he would appreciate a call from anyone passing through there. He is a vice-president of Baker Bros. Machine Company there. For my part, my name is in the Boston telephone directory and I am always glad to get a call or a visit from any Tech friends." Norm has a nice family of three girls and a boy.

Now for a few news items from the clips: Wayne Pierce, Jr., has been made vice-president in charge of manufacturing at Norden Instruments, Inc., Milford, Conn. Tom Hennessy is a partner in a new architectural firm in New York called Schoen and Hennessy. Dr. J. Edward Lynn has been made director of Basic Research for National Gypsum Company. Walter Kozak has been named general foreman of the Flowmeter Unit of the West Lynn Works of General Electric in Massachusetts. He and family are now living in Swampscott. Our famous classmate, Bob Vogeler, has been touring during the summer and speaking on the meaning of the word "Freedom."

Leonard Seder has been appointed a lecturer in industrial engineering at Northeastern University. He is assistant to the superintendent of the Gillette Safety Razor Company, South Boston. Horace Van Dorn was made technical development manager of the Fafnir Bearing Company in New Britain, Conn. Chester Brown, Jr., was made personnel supervisor for the Medium Steam Turbine, Generator and Gear Department of the General Electric Company at Lynn, Mass. Tom Kinraide was inducted into the Waltham, Mass., Rotary Club. His firm, Bassett and Kinraide, sells power plant equipment. Perley Goodwin was made second vice-president and sales manager of the Acushnet Process Company's rubber division. Karl was selected by his company to take the special executive

management course at Harvard which he recently completed. John L. Goheen, Jr., was appointed district manager for Commercial Research on the West Coast for the American Brake Shoe Company. He is now loacted in the San Francisco office of the company. Major General James McCormack, Jr., was appointed vice-commander of the Air Research and Development Command of the U. S. Air Force.

That just about winds things up for this month. I'll be looking forward to more material on my jaunts around the country and will try my best to keep the pot boiling. — WINTHROP A. JOHNS, *Secretary,* 34 Mali Drive, North Plainfield, N.J.

• 1938 •

News this month is brief. A few items from releases apparently give us complete coverage. John Snuggs has been appointed assistant division director, a newly created post in the Whiting, Ind., research laboratories of Standard Oil Company. John has been with Standard since he received his master's degree in '38.

Other items state that Charles Kittel is the author of a book entitled *Introduction of Solid State Physics* (New York: Wiley; London: Chapman and Hall, 1953, $7.00) and that A. M. Clogston and H. Heffner gave a talk entitled "Periodic Focusing of Electron Beams" at the I.R.E. Electron Tube Conference at Stanford University in May, 1953.

James Spartales has been appointed manager of Product Research for Division B of the Campbell Soup Company. He has been with the company since 1942 and in the Research and Development Department since 1949.

That's it — why not sit down and write that letter you've been planning for some time? — DAVID E. ACKER, *General Secretary,* Arthur D. Little, Inc., 30 Memorial Drive, Cambridge, Mass.

• 1939 •

Doc Wingard has released important information regarding the 15th Reunion. Heading the list is the appointment of Ozzie Stewart as chairman of the Reunion Committee. Oz has agreed to try to fill the shoes of our departed friend, Stu Paige who died of cancer in the spring of '52. Acting with dispatch, Chairman Stewart has announced that the 15th Reunion will be held on the week end of June 12-14, 1954, at the Snow Inn, Harwich Port, Mass. Regarded as one of the bright spots on the southern side of Cape Cod, Snow Inn offers what appear to be ideal facilities for reunion purposes. A list of details were forwarded by Ozzie; these will be spelled out in the April and May columns; however, the Committee has requested publication of the rates so that appropriate budgeting of funds may be made wherever necessary.

According to Oz the rates are "$15.00 per day per person, all tips and hotel extras included, although not including the Reunion's registration fee. For the budget-minded, a plan of putting away $10.00 or $15.00 a month from now on will approximately cover the accommodations for Mister and Missus." Stewart also reports that Manning Morrill in Cedar Rapids, Iowa, has promised to act as coordinator for those in the western contingent of the Class who expect to attend the Reunion. In subsequent direct mailings, each member of the Class will receive full information regarding plans as they shape up, but the Committee urges each sectional group of classmates to get together and make plans for traveling as a group, perhaps chartering busses or planes to cut expenses and time of travel. — *Assistant Secretaries:* GEORGE BEESLEY, 38 Homestead Road, Lynnfield Center, Mass.; MICHAEL V. HERASIMCHUK, P.O. Box 495, Bethlehem, Pa.

• 1940 •

After working as an examiner for over 11 years your Secretary recently resigned from the Patent Office to accept a position with Cushman, Darby and Cushman, a patent law firm in Washington, D.C. Kenny Davis has been promoted from associate professor to professor of engineering in the Department of Engineering, University of California, Los Angeles. At present he is on a leave-of-absence from the university and is manager of the Research Division, California Research and Development Company.

Two of our classmates with Du Pont have received promotions. Ed Cooper is now general laboratory director in the Research Division of the Polychemicals Department, Wilmington, Del. Bob Goodwillie has been elevated to the position of assistant technical manager of the Victoria Plant at Victoria, Texas. Previously Bob was assistant technical superintendent at the Sabine River Works and just prior to his new assignment was technical superintendent at the Belle Works.

Dr. S. Donald Stookey was the recipient of one of two John Price Wetherill Medals by The Franklin Institute of the State of Pennsylvania for his part in the discovery of a revolutionary photosensitive glass process. James Moore has been named general manager of the Vacuum Metals Corporation, a wholly owned subsidiary of the National Research Corporation. These brief notes mark the end of the '40 column for 1953. To each classmate your Secretary wishes a merry Christmas and a year of health and happiness. — ALVIN GUTTAG, *General Secretary,* 7814 Marion Lane, Bethesda 14, Md.

• 1941 •

Ray Harper wrote a most welcome letter telling about his new enterprise: "Last February I resigned from Dewey and Almy to go into partnership in advertising photography in New York City. My partner is a top-notch salesman, and I am doing both selling and administration. Our outfit is called the Ed Scherck Studios and we have three well-known photographers (including a countess!) and two studios. Thus far business is good. . . . Several weeks ago I had lunch with Bill Unger and saw his TV movie studio, called Eliot, Unger and Eliot — some layout! . . . Hank Avery stopped in to see us about two weeks ago; he expects to become a proud father again in December (I think). . . ."

Thanks a lot, Ray, and the best of luck in your business. Nothing beats getting the story first-hand; how about hearing from some others who have made changes?

Barbara and Norm Karasick announce the arrival of Marylin Joan on September 1. Congratulations! The card gives their home address as Sugarhill, Falls Village, Conn.

Three news releases make up the rest of the class news for the month. From the *Sperry Engineering Review* we learn that Bob Edwards has been appointed to a new position as head of the Missile Components Engineering Department. He went to Sperry on completing VI-A in 1942 as an assistant project engineer on servo mechanisms. He worked on automatic tracking systems for airborne radar and on submarine sonar gear. He transferred to the Fire Control Engineering Department in 1944, assigned to a turret control system. He became a project engineer the same year, while engaged in servo and amplifier electronics design work on a bombing navigational computer. He became a senior project engineer in 1946, and in 1947 was transferred to MacArthur Airport for flight testing of the first bombing navigational computer system. He was made a research engineer in 1948, and was appointed engineering section head for Point Mugu (Calif.) Laboratory, where he had been doing field test work on guided missiles until his return to the plant at Great Neck, L.I., N.Y. He holds several patents on servo system components. A DuPont news release tells of the promotion of Carl Oldach to assistant plants technical manager in the Polychemicals Department in Wilmington. Prior to this, he had been assistant technical superintendent at the Belle Works and a research supervisor in Wilmington, from whence he became manager of the technical section of the Victoria, Texas, plant. And from the *Bell Laboratories Record,* Ray Ketchledge gave a talk entitled "L3 Coaxial System Equalization and Regulation" to the A.I.E.E. summer meeting in Atlantic City.

Be sure to respond generously to Reid's appeal for contributions to the Alumni Fund before Christmas shopping soaks up all your money

Latest address changes: Frank S. Bonham, Jr., 3825 Myrtle Avenue, Long Beach, Calif.; Mrs. Barbara Eaton Fisher, 162 Field Road, Longmeadow, Mass.; Albert A. Frink, 26 Merrill Place, Huntington, N.Y.; John W. Greiner, 2617 Taliesin Drive, Parkway Village, Kalamazoo, Mich.; Raymond F. Koch, 38 Essex Road, Winnetka, Ill.; Commander Jack A. Obermeyer, Quarters I, Puget Sound Naval Shipyard, Bremerton, Wash.; Osborne H. Paddison, Jr., 32 Royden Road, Tenafly, N.J.; Commander William F. Petrovic, 3102 Wilson Avenue, Alexandria, Va.; Commander Dale F. Pinkerton, U.S. Naval Shipyard, San Francisco, Calif.; William D. Potter, 15 White Street, Quincy 69, Mass.; Charles H. Pratt, Jr., SHAPE Intelligence Division, A.P.O. 55, c/o Postmaster, New York, N.Y.; Commander William N. Price, 118 East Howard Street, Quincy 69, Mass.; Lieutenant Colonel Leon F. Punsalan, G-4 Logistics

Division, HQ U.S.A. REUR, A.P.O. 403, c/o Postmaster, New York, N.Y.; John C. Richards, 877 Lincoln Avenue, Palo Alto, Calif.; Roger E. Robertson, 1252 Waverly Place, Schenectady 8, N.Y.; Thayer Rudd, Dellwood Park, Madison, N.J.; Laurence P. Russe, 7117 Waterman Avenue, St. Louis 5, Mo.; Professor Paul K. Rummel, Mechanical Engineering Department, R.P.I., Troy, N.Y.; John F. Russell, 40 East Gate Road, Copiague, N.Y.; Nathaniel M. Sage, Jr., 823 Main Street, Amherst, Mass.; Warren G. Sargent, R.D. 1, Brookville, Md.; Murray M. Scott, 80 Sumter Street, Providence, R.I.; Alan H. Shapley, Box 263, Peterboro, N.H.; Guy W. Slaughter, 99-1752 Aiea Heights Drive, Aiea, Oahu, T.H.; Wilson R. Slaunwhite, Roswell Park Memorial Institute, 663 North Oak Street, Buffalo, N.Y.; Arthur S. Spear, 15 Bower St., Providence, R.I.; John J. Symons, Talon, Inc., Meadville, Pa. — IVOR W. COLLINS, *General Secretary,* 28 Sherman Road, Greenwood, Mass. JOHAN M. ANDERSEN, *Assistant Secretary,* Saddle Hill Farm, Hopkinton, Mass.

• 1942 •

This month's mailbag had lots of news releases and newspaper articles attesting to the fame and fortunes of 1942 men, but please don't wait until your name appears in print to tell us what you have been doing and what new recognition you have received. A communication from The Franklin Institute in Philadelphia tells us that Wallace E. Frank has been appointed chief of the Bioengineering Section. In this new position Wally will direct a group of engineers and physicists in applying the techniques of their professions to problems in such fields as surgical instruments, prosthetic devices, and other tasks in medicine and biology. Since joining the Laboratories of The Institute in 1946 he has devoted his time to the development of a Projection Magnifier, a portable device for use by people with greatly impaired vision; a cane with a radar-like detector for aiding the blind to go up and down stairs and curbs, or around obstacles; and a new surgical device for tying blood vessels. Wally has also worked on a study of the abrasion resistance of materials for false teeth and on instrumentation for measuring body pressures. After receiving his B.S. with us, he went on to take an M.S. degree in mechanical engineering at New York University.

A long newspaper article from Aukland, New Zealand tells of a visit by Robert F. Stevenson. In the course of taking a trip around the world Bob has been studying public transportation and discussing new developments with local transit commissions in the major cities of various countries. He reports that the P.C.C. type of high-speed, lightweight, low-noise trolley has had a very favorable reception not only in Boston, Dallas, Kansas City, and Birmingham, but also in Stockholm, Brussels, Geneva, Milan, Rome, Hobart, Brisbane, and 11 other cities he has visited on this tour.

In the family events field we have learned that Richard Huntley Bridge has married the former Ruth Elizabeth Thomson of Jacksonville, Ill. Mrs. Bridge is a graduate of MacMurray College and did postgraduate work at Simmons. Richard is a practicing architect in Boston and Wakefield and is also quite active in community work as a member of the executive board of the Quannapowitt Council, Boy Scouts of America; past president of the Y.M.C.A.'s Men's Club, and as a leader in Red Feather Drives. Candidate number two for the baby prize announced at our 10th Reunion is Warren Barry Friedman. An announcement from the proud parents, Anne and Elliott F., says he arrived on June 19 and weighed in at 10 pounds, even.

The American Brake Shoe Company announces that Frank Herlihy has been appointed chief metallurgist. Frank and family of two youngsters are now living in Hillsdale, N.J. Among the other men in important positions at Brake Shoe are Bob Ely, Harry Platt, and Duncan Wilson, all of 1942. A news item from Philadelphia announced the appointment of John C. Haas to a vice-presidency and membership on the executive committee of Rohm and Haas. John came from Amherst to take his M.S. in 1942. The Hamilton Standard Division of United Aircraft Service Corporation recently announced the promotion of Wilfred H. Shaw to supervisor of field service for propellers and related accessories in the military field. Heinie saw the world for United Aircraft as a service engineer and is one of the very few civilians to have received the Air Force's Bronze Star medal. He won this award for servicing *F-51* fighters under fire on Iwo Jima in World War II. He recently took out membership in the Caterpillar Club by parachuting from a crippled Air Force transport near Seattle, Wash.

Several articles have appeared in the press lately about the New York Airways, Inc., a helicopter mail, freight, and now passenger service formed by John L. Senior, Jr., now chairman of its Board. Traffic is handled in four-passenger Sikorsky *S-55s* and stops are made at Idlewild, La Guardia, Newark, and Bridgeport. Service will be expanded as soon as military priorities release additional helicopters for commercial work. Although the first scheduled flights were made only one year ago, the firm is now flying well over 44,000 miles a month. Arthur A. Hauser, Jr., has been promoted to head the Special Armament Systems Engineering Department of Sperry. He has directed development programs on digital computers, the Gyrotron angular rate tachometer, private line communication systems, an automatically controlled lathe, and a large aircraft defense evaluation system. Arthur has been with Sperry ever since 1942 except for a period of teaching and advanced study in mathematics at R.P.I.

Professor Michael B. Bever, who took his M.S. with us, has published an article in the *Journal of Applied Physics* entitled, "The Energy Stored in Metal Chips during Orthogonal Cutting." S. C. Hu has been elected president of the newly created Standard Tungsten Corporation. This organization is planning to mine tungsten near the old townsites of Paradise and Portal in Southeastern Arizona.

Maxwell H. Kaplan is now affiliated with the Guided Missile Laboratory of Hughes Research in Culver City, Calif. Word has been received from Brazil of the promotion from commander to captain of Gilberto L. Wanderley. His new address is Laranjeiras, Rio de Janeiro. *Aeronautical Engineering Review,* in its August issue, published a biographical sketch of the chairman of the Washington Section, Captain William C. Fortune, U.S.N., and holder of an S.M. degree in the Class of 1942 in aeronautical engineering. High lights of his activities include membership in the Caterpillar Club as a result of a mid-air collision during a camera gunnery run while on carrier duty in 1937; catapult engineering at the Naval Aircraft Factory and in the Pacific which led to his appointment as chief engineer of the N.A.F. in 1945. During the following five years his work covered many varied aspects of aeronautics including jet propulsion and logistics work in the Korean Theatre. In 1951 he was appointed head of the Aerodynamics Laboratory of the David Taylor Model Basin. In this capacity he is concerned with direct research and development tests of aircraft and guided-missile models in the two subsonic, the transonic, and the three intermittent supersonic wind tunnels at the Laboratories. — LOUIS ROSENBLUM, *Secretary-Treasurer,* Polaroid Corporation, 730 Main Street, Cambridge 39, Mass.

• 1943 •

In glancing over the notes I had prepared for the November issue of The Review, I realized that I had made no mention of the magnificent class picture taken at the 10th Reunion. Bert Picot, 2-44, whose New York firm specializes in group photography, took the picture, which, as some of you may have discovered, has an unusual feature. Bert was the man behind the camera, yet he appears in the picture, big as life! It brings to mind the old college trick used in the days of the scanning camera, when a wise guy on the left would duck around behind the group and also appear in the picture on the extreme right. If you wish a copy of this new class picture write to Bert Picot, 130 Flatbush Avenue, Brooklyn 17, N.Y., and he will mail it out C.O.D.

The following letter was received this past summer from Oivind Lorentzen, XIII-C from Oslo, Norway: "Dear Classmates, I have received all your announcements with regard to the 10th Reunion to be held in the Mayflower Hotel in Plymouth. I have spent the last year in Norway, but had hoped to return in time to take part in the Reunion. I will, however, now only return during the latter half of July and will, therefore, not be able to make it. I want to use this opportunity to send you all my best regards, and I shall be looking forward to hearing about it from some of those who have been present." Oivind is active in the shipping business, being a shipowner.

Francis J. Gaffney, a graduate student with our Class, has been appointed to the post of director of engineering for the Guided Missiles Division of the Fairchild Engine and Airplane Corporation. He

formerly was general manager of the Polytechnic Research and Development Company, and is widely known for his work in the field of microwave measurement and pulse circuit techniques. During World War II he headed the Test Equipment Group at the M.I.T. Radiation Laboratories. Another graduate student of our Class, John Kempster, who is on the controller's staff of the Dennison Manufacturing Company, in Framingham, Mass., is the author of an article which appeared in the August issue of the journal of the National Association of Cost Accountants, entitled "The Use of N.A.C.A. Publications in College Teaching." John taught at M.I.T. before joining Dennison.

Bill Verrochi was married on October 3 at St. Michael's Church in Cranford, N.J., to Gloria Todino of that city. The reception was at the Military Park Hotel in Newark. Jack Foley was best man. The Verrochis will be at home at 98 Chestnut Street, Boston, Mass. Bill is presently a project engineer at Jackson and Moreland, Engineers, in Boston.

Professor Ken Wadleigh is exchange professor of thermodynamics at Cambridge University, Cambridge, England. Professor Yates of Cambridge will replace Ken at the Institute. Ken is planning to be there until the middle of next summer. Before returning he is planning a tour of the continent and the British Isles.

I received a fine letter recently from Class Agent, Jack Tyrrell, and the odds are that you received one, too. Noting the possibility of tremendous tax savings, mentioned in his fund-raising epistle, I called in my tax accountants, my auditors, and attorneys, and together we worked out a sound solution to the problem, which was promptly mailed in the return envelope to the Alumni Fund. If you haven't already mailed your check, do so now before the Christmas rush. The Alumni Fund Report should be your incentive.

In Boston the First Thursday Luncheon Club has resumed its meetings in the Campus Room at Tech. Classmates in the area meet for lunch the first Thursday of each month. This idea need not be confined to Boston, gentlemen. If the New York gang would like to start a similar club, why not? They have good food there, too, I understand. Let's hear from somebody on this.

During the course of the reunion activities I had occasion to heckle a few fellows about not writing news to the Class Secretary. The wives were all for it, but the fellows were full of excuses. So notice is hereby given that letters from class wives will be welcome. Come on, girls, tell us all about the new baby, house, or what have you. And you wives who have control of the check book still have time to send in that five note for Class Dues, payable to M.I.T. Class of 1943. If the above challenge is accepted, the next issue should contain some very interesting notes! — RICHARD M. FEINGOLD, *Secretary*, 49 Pearl Street, Hartford 3, Conn.

• 2-44 and 10-44 •

The news item of the month is the selection of the site for the 10th Reunion in June. Bob Peck, Bob Plachta and Ken Rehler individually visited the Curtis Hotel in Lenox, Mass., and all came back with glowing reports of the location and the genial personality of Mr. George Turain, the manager. Don Severance'38 of the Alumni Association had his class reunion there this past summer, and all reports of his group were exceptionally favorable in all respects, and in particular the great lengths to which the management extended themselves to provide a memorable time for the group.

The Curtis Hotel is located 140 miles from both Boston and New York in the heart of the Berkshire Mountains where the Tanglewood Music Festival is held. The resort is in a quiet New England town surrounded by rolling mountains, cool lakes for swimming and boating, and fine running streams for fishing. The Committee has arranged to take over the entire hotel exclusively for the Class of 1944 and this includes all the facilities: ball field, swimming, the bar, ballroom, golf, tennis, and so on. The spot is ideal for a relaxing week end while renewing old friendships with classmates.

Prexy Lang Flowers dropped a note and said he is up to his ears in "dough" baking and selling that good Sunbeam Bread. Lang and his brother operate two plants, one in Thomasville, Ga., and the other in Jacksonville, Fla., with Lang as vice-president in charge of sales. Besides raising bread he has two boys and a girl to bring up. Bill Botten was down Thomasville way selling the products of the Owen Buchet Company. Bill is also a vice-president and has been selling and traveling all over the southeastern states and drops in to see any classmates in the vicinity of his travels.

Jack Barmby is now living in Washington, D.C., and is moving on to bigger things. He has been with the Bureau of Aeronautics, Navy, since 1948 and going to night school to pick up an A.M. in Business Administration from George Washington University in 1951. Presently, Jack is laboring for a Ph.D. in public administration at American University. More power to you, Red! Bob Estes who had been working in the aircraft field decided to get closer to mother earth and is now in Florida with his Dad growing special fruits. I understand Herb Cunningham got married in September. Presently Herb is in Virginia at Langley Air Force Base working for the National Advisory Committee for Aeronautics.

In closing, Bob Peck would like you to remember his Class Agent's letter; an early response would make his life a brighter one. By the way, please fill out and return the questionnaire that was included in Bob's letter as your columnist's life will also be a brighter one if there is a large return on the news items. — BURTON A. BROOMFIELD, *Secretary*, 608 Grove Street, Newton Lower Falls, Mass.

• 1947 •

Compassion is *not* a lost virtue among members of our ever beloved Class. I can state this unequivocally, as the summer past has seen no less than three (two by proxy) classmates rally to my pitiful pleas for news, and come through with letters of their doings. By jing, I was about to give up all hope that anyone even read these scribblings, but my diligence has been vindicated at last. Herewith uncensored and unabridged are the letters.

The first is on a letterhead engraved "Robert C. Drye, M.D.," and goes: "Your highly justified complaints in The Review I can only answer by saying that I have been waiting for the past year to see whether the Army would get me before sending in a summary of my activities. Suffice it to say, they did. Anyhow, I got out of New York University College of Medicine in 1951, and have just finished a two-year rotating internship at Lenox Hill Hospital in New York. I am entering the Army Medical Corps on July 1 for the usual two years. I am still unmarried. Saw Hunter Bennett a few weeks ago on his way for a brief rest in Bermuda from his activities as a lawyer in West Virginia. Keep up the good work, and spare not the rod on the flagging brethren." Thanks for the encouragement, Bob.

Ed Cavanagh's gracious and charming wife, Skip, writes the following: "Just received the June, 1953, Technology Review, and read your disgusted column. Don't blame you a bit — and since we have been a bit lazy here on the coast, shall send along some news of the Edwin Cavanagh (Course XV, 1947) family. Ed is a consultant with Booz, Allen and Hamilton, management consultants and likes it very much. He has been with them for one and a half years now having previously been with the Clary Multiplier Corporation for five years in San Gabriel, Calif. He is at present in the Los Angeles office of B.A. and H. We have two children now — Michael, five years old and Laurie, two and one-half years. Since leaving Boston and Westgate, we haven't seen many M.I.T. friends. Please give them our greetings through your column. (Any news of Chris Kielland, Course XV?" If any of you wish to write to Skip and Ed, their address is 11231 Lynrose Street, Arcadia, Calif.

Bobbye Portmann, Pete's lovely wife, sent along the following note: "Hi! Never can tell who will turn up in your mail. You keep complaining about not getting any mail — just keep printing misinformation, and you'll get lots of mail. A couple of months ago you mentioned seeing Pete, and mentioned me and our three children. Thank you for the copy space, and I just wish it were true, but we only have the *two* boys, Bruce, five and a half, (just graduated from kindergarten) and Brian, eight and a half months. Pete is at Tech working on Project Lincoln staff and working for his Ph.D. We are moving up from Washington as soon as we find a home. Haven't seen Johnny Contegni in a couple of months, but he is now a lieutenant (j.g.), and is living in S.E. Washington. Will have to give him a call one of these days. Hope we'll see you ere long. How about coming out for dinner when we get settled up there? Love to have you." Thanks for the invitation, Bobbye — I accept with alacrity.

See, people? It can be done, so let's get more of these letters in here, and we'll print 'em up as soon as they arrive. For the rest of my news this month I have to rely on the good old press clippings services, public information offices and mem-

ory. Alumni Day last June saw a pretty fair turnout of our classmates at the Institute. I chatted briefly with Harl Aldrich, Mort Loewenthal, Alex Pastuhov, Art Schwartz, Bob Thirkield and Gerry Reethof at the luncheon in DuPont Court. Unfortunately, I was forced to miss the stein-on-the-table banquet that evening, but I dashed over to the hotel for a quick drink, and quaffed one with Rufe Franklin and John Kellett who were in town for the festivities. The Alumni Office informs me that Bob Aquadro, Pete Callejas, Dick Cochrane, Dave Frantz, Bob Peach, and Milt Robins were also at Alumni Day, but I missed seeing them. My old Grad House roommates, Bob Loewy'48 and Bob Gates '48 (with wife, Peg) came up to Boston for the week end, and we had a rare old good time.

Our classmates are steadily moving up in the world as the following reports will indicate. Jerry Cox, who recently received his Ph.D. at the Acoustics Laboratory, has accepted a position in the newly created loss-prevention department of the Liberty Mutual Insurance Company. Jerry will be working on elimination of noises that tend to handicap industrial production and efficiency. Martin Essigmann has been promoted to professor of research in communications at Northeastern University, where he has been on the faculty for several years as associate professor of electrical engineering. Ed Bennett, who has been on the Tufts College faculty as an instructor since 1951, was promoted last July to assistant professor of psychology. Ed, a Course VI graduate at Tech, received his Ph.D. in psychology from Purdue University.

Ezra Krendel, a Senior Research Engineer in psychology at the Franklin Institute in Philadelphia, has recently been honored by appointment to the Columbia University Seminar Movement. Ezra is also working on his Ph.D. thesis in psychology at the University of Pennyslvania. He has two children — David, aged three, and Tamara, aged five months. Joe Vorndran is now a member of the technical staff of the Hughes Research and Development Laboratories in Culver City, Calif.; and Wilfred Gilbert is in Iran with the technical co-operation mission of the Foreign Operations Administration. Wilfred was formerly assistant sanitary engineer for the Vermont State Health Department, and will be engaged in similar duties in Iran. Traveling in the opposite direction is Colonel Harry Woodbury, who, after serving three years at Headquarters, U.S. Forces in Austria, in Salzburg, is returning to take up a post in Chicago.

As the years go by, our Class is collectively becoming more and more erudite. Charles Huckaba recently received a Ph.D. degree from the University of Cincinnati; and Lieutenant Milt Webb, U.S.N., has received a bachelor of science in engineering electronics from the U.S. Naval Postgraduate School, Monterey, Calif. Major Tom Hughes, having completed studies at the Ordnance Guided Missile School, Redstone Arsenal, Huntsville, Ala., has transferred to the Office of the Chief Signal Officer in Washington, D.C. Tom has two children — Anne, four, and Tom, Jr., six months. Enslie Oglesby is consulting for the Dallas Chapter, American Institute of Architects.

Now for the Bureau of Vital Statistics. Bob Michaud wed Ellen Hatch of Southport, Me.; Joe Nordstrom, Assistant Professor of economics at Clark University, married H. Barbro Berg of Quincy; and Bob Aquadro married Eileen Mary Maher of Springfield. Eileen is a Marine lieutenant stationed at the U. S. Marine Corps School, Quantico, Va. An announcement from Marty Schwartz tells us of the birth of his second son and fifth child, Russell DePuy. — CLAUDE W. BRENNER, *General Secretary*, 1470 Beacon Street, Brookline 46, Mass.

• 1948 •

Your traveling Secretary returned home to Chicago barely in time to read the mail and get these notes on their way to The Review before their deadline. Hence all absence of editorial comment — just news; quoted verbatim when possible.

"Miss Elaine Hamilton was married to Second Lieutenant Robert I. Norman, Jr., U.S.A.F., September 11. Lieutenant Norman is awaiting orders to fly to the West Coast for flight school training. He recently was employed as an aeronautical engineer at Glenn L. Martin Company, Baltimore." — "In Rochester, N.Y., Miss Margaret Wilson became the bride of Stanley Jensen. She was graduated from the University of Rochester and its School of Nursing." — "In Dalton, Mass., Miss Barbara Simons became the bride of Howard Feist, Jr., of Boston. The bride graduated from National Cathedral School in Washington, and from Wellesley College in 1953. Mr. Feist is now working for his doctorate at Harvard Graduate School of Business Administration. He is an instructor at Babson Institute and a veteran of World War II. He has served in Korea as a first lieutenant. . . ."

"Earle R. Marshall is a coauthor of an article entitled 'The Energy Stored in Metal Chips during Orthogonal Cutting,' which appeared in the September, 1953, issue of *Journal of Applied Physics.*" — "Cecil E. Hall has written a text book entitled *Introduction to Electron Microscopy.*"

"A paper was presented at the 11th Annual Conference on Electron Tube Research at Stanford University, June 18-20, by Philip M. Lally, project engineer in the Electronic Tube Research and Advanced Development Engineering Department of Sperry Gyroscope. The subject of his paper was 'The Transverse Oscillator.'" — "Thomas H. Cox has been promoted to the position of Assistant Technical Superintendent at the Du Pont Company's Victoria Plant, Victoria, Texas. Cox joined the Du Pont Company in 1948 as a chemical engineer at the Sabine River Works, Orange, Texas. At Victoria, Cox will be engaged in development work on the process for making adiponitrile, an intermediate in the manufacture of nylon."

"Appointment of an assistant professor in the department of Mathematics and Astronomy at Dartmouth College was announced today [9/4/53]. Named is Dr. Gerald L. Thompson of Princeton, N.J., formerly an instructor in analytical geometry and calculus at Princeton University." — "Dr. Howard L. Poss has been appointed assistant director of the Hudson Laboratories operated by Columbia University in co-operation with the U.S. Navy at Dobbs Ferry, N.Y. Dr. Poss was the youngest member of the 1948 graduating class at M.I.T. to receive his doctorate." — "As reported in a letter from Louis D. Black, Jay Schwartz is now a lawyer. Graduated first in his class at N.Y.U. law school."

"Robert L. Murphy has been promoted to chief engineer of the Fabreeka Products Company, Boston, Mass. He was formerly a western division engineer for the same company in Chicago, Illinois." — Karl Justin reports that he is married (nearly three years), has a little boy (Craig — one and one-half years) and recently began working with Wigton-Abbott Corporation (plant engineers).

"Army Pvt. Kenneth S. Brock has been named an honor graduate of the Leadership Training Course conducted by the 9th Infantry Division Artillery at Fort Dix, N.J. Brock was instructed in map reading, use of weapons, the compass, leadership psychology and related subjects. He was advertising manager for the Gabriel Company, Cleveland, before entering the Army last February." (We can't resist a comment here — just shows what good training will do. Ken was in V-12 at Tech during the war.)

The oft repeated plea is still in order. Write; and if you haven't been doing anything exciting, well then just say "Hi." — WILLIAM R. ZIMMERMAN, *Secretary*, 3130 North Lake Shore Drive, Chicago 14, Ill. RICHARD H. HARRIS, *Assistant Secretary*, 26 South Street, Grafton, Mass.

• 1949 •

Everybody, pull out a pencil and make a big circle around June 12 and 13 on that new 1954 calendar you are about to hang. Label it "My Fifth Reunion." Yes sir, five years have passed and reunion plans are already brewing. We have a group of red hot '49 men in Archie Harris, Russ Cox, Milt Bevington, Stan Margolin, and Kemon Taschioglou who are organizing the reunion committee. You can give these fellows a hand by dropping Archie a card with any suggestions or ideas you would like to see incorporated in your reunion. Better still, get active and join the committee. So you live in New York, Chicago, or Timbuktu; all the better, we can use reunion subcommittees in every town. Send a card to Archie Harris, 577 Highland Avenue, Malden, Mass.

Our reunion committee will be chairmanned by Archie, who after spending two and one-half years in inspection and production with Chevrolet in Cincinnati, joined the mechanical division of Arthur D. Little as a staff assistant in personnel. The Harrises have two children, Kenneth, three, and Diane, one and one-half. Stan Margolin stayed on at Tech and received his M.S. in chemical engineering before joining DuPont as a design engineer. Stan recently returned to New England, is with Arthur D. Little, and is living in Brookline with his wife, Roz, and son, Jack Stuart, aged two. Milt Bevington joined Dewey and Almy after getting an M.B.A. at Harvard and is now assistant su-

perintendent of their Acton plant. Milt and his wife, Betsy Rickey, "the dear that made Milwaukee famous," have two children, Milt Jr., aged one and one-half and Tom, brand new.

Russ Cox spent one and one-half years with George Macomber Contractors as assistant project manager after getting his M.B.A. at Harvard. Russ recently joined Cabot, Cabot, and Forbes of Boston, and on July 25 was married to Sally Stuart of Utica, an ex-Wellesley girl. Kemon Taschioglou was appointed treasurer of our reunion, his campaign platform having the unique plank of being the only available '49 bachelor in the Boston area. Kee completed his Army career with a pleasure jaunt to Europe and the Near East, and has finally gone to work with Polaroid, five years after graduation. Five years – send your card to Archie tonight. – CHARLES W. HOLZWARTH, *Secretary*, 1426 Grace Avenue, San Jose 25, Calif.

• 1950 •

Frank Winiarski finished up his tour of duty with the Army and has started graduate study of mechanical engineering at the University of California. Frank spent his last year of duty in Korea and he is mighty happy to be back home and back in school again. John Litchfield was stationed in Berlin, Germany, till this summer when he came home and was discharged. He has since entered the University of Illinois where he will do graduate work in food technology.

Wedding bells are still ringing and each month men of '50 continue to say "I do." Peter Dayton and Sherlie Wheeler Spencer were joined on September 12 at St. Joseph's Church in Lincoln, Mass. Pete received his doctorate in '53 from the University of Paris. Richard Poirier and Alta Hesselbrock said "I do" at St. Aloysius' Church, Shannon, Ohio. Richard is assistant superintendent at the Kenthan Foundry Division of Black Clawson Company in Middleton, Ohio. Sarah Joy Danner was married to Horace Adlai Sawyer, Jr., on September 12 at Duxbury, Mass. The couple spent their honeymoon in Bermuda. Sally Cleveland Tarbox was married to Lester Smith on September 5 at the Immanuel Congregational Church in Hartford, Conn. As reported last month Les has a wonderful position with Hamilton Standard Division of United Aircraft.

Clarence Picard is now with the Bureau of Aeronautics of the Navy Department in Washington, D.C. Lieutenant Bob Snedeker is still traveling about the country with the Air Force. His latest address is in Princeton, N.J. Gregory Gebert is out of the service and settled down in Union, N.J. Len Caro spent some time in Korea and finally was discharged from the Army last spring. He is now in Ann Arbor, Mich. Wray Bentley, Jr., is working for the Telecomputing Corporation in New Mexico.

The Frank Finnegans became proud parents of Brian Francis on July 17. And the Lee Powers became parents for the fourth time this summer. If my memory serves me right, that makes one girl and three boys. Lee and Barbara and family are still in Rockford, Ill., where Lee is employed with a farm machinery firm. Jack Card accepted a very good position with Chance Vought and is in their newly organized Boston office. When Jack was in Dallas for an indoctrination course, he ran into Al Shaw who is working for Chance Vought in their Dallas office. Mariano Romaguero and his wife Virginia were in Boston recently. Nano is in the Army and is stationed at Ft. Belvoir, Va. He is expecting a Christmas present from his Uncle Sam in the form of a discharge, and then he and Virginia will go back to sunny Puerto Rico.

Phil Byrne and family have moved from Rochester, N.Y., to Waterbury, Conn. Phil is now with U. S. Time in Waterbury. Something tells me that Phil's little youngster (21 months old) is going to be a baseball player when he grows up. Phil and Jean and little Phil were visiting Phil's mother-in-law just after Labor Day, and I stopped in to say hello and was entitled to an exhibition of little Phil's pitching arm. He throws a ball straight, true and mighty fast, and I believe he has a much better arm than his old man.

I made a prediction in my last column that the controversial roof of the new auditorium would be framed and ready for concrete at press time. Those of you near the Institute could see for yourselves that I missed the boat by about a month. However, if you are in the vicinity of the Institute in the first week of December, stop by and see the big show. I definitely promise that it will be ready by then. – JOHN T. WEAVER, *General Secretary*, 18 Buena Vista Park, Cambridge, Mass.

• 1951 •

Best wishes for a very merry Christmas and a happy New Year to all of you guys and dolls of '51! Now don't pull out your slipsticks to calculate the number of shopping hours until Christmas! Relax a bit while I tell you a short story of the doings of the Class.

The first item on the agenda concerns the "I do" area. The ranks of the dashing young "free" gentlemen are fast thinning out. Reverend H. Richard Hoblin was married to Rachel Fellbaum in Manchester, N.H., in September. Dick attended Boston University and Andover Newton Theological school; he is presently serving a pastorate at the Congregational Church at Kensington, N.H. Gene Oster and Carolyn Estey became Mr. and Mrs. in August at Boston. Gene is working for his doctorate degree at Tech. Ken Porter took Dolly Conwell as his bride in August at Brockton. Ken is employed as an aeronautical engineer with a Baltimore firm. Another August wedding featured Peter Preston and Jane Bushey at Springfield. Pete is employed as a junior research engineer at Titanium Metals Corporation and makes his home at Boulder City, Nev. Bill Diffin was best man. The distaff side is represented here this month. Rachel Goetchius became the bride of Bob Seller, at Wollaston in September. Rachel was doing engineering work at McCarron and Sullivan, Inc., in Boston. She is also corresponding secretary of the Boston Section of the Society of Women Engineers.

Dick Goss was promoted to the grade of Corporal while serving with the 930th Engineer Aviation Group in Korea. Dick was scheduled for rotation in September to stateside duty. Skip Mott completed a 36-week course covering the upkeep, transportation, and fueling of guided missiles at Redstone Arsenal at Huntsville, Ala. He has been transferred to the White Sands Proving Ground, N.M. Ralph Romano, having graduated to the multicolored tie stage, shifted his base of operations from Wright-Patterson to dear old Providence where he is employed at the Hackett Automotive Accessories Company.

John Salzer has been on the technical staff of the Hughes Research and Development Labs at Culver City for the past two years. This year he is also serving as an extension lecturer in engineering at the University of California at Los Angeles. Bob Herman was appointed assistant to the general manager, Federated Metals Division, American Smelting and Refining Company, headquarters at Houston, Texas. Bob has formerly been the assistant to the manager at Los Angeles. Allen Lauw-Zecha has left Stanford University where he was working for his Ph.D. to join the Chemical Department Staff of St. Lawrence University as assistant professor in charge of analytical chemistry. George Higgins was appointed instructor on the Norwich University's faculty and will teach a course in civil engineering. Bill Plouffe decided to explore the benefits of the Harvard "B" School. For the past two years Bill had been on the engineering staff of the Hamilton Standard Division of United Aircraft Corporation at East Hartford, Conn. You'll love the case system, Bill! Good luck!

Here's a little yarn to illustrate the wide diversity of interests and ingenuity of the Tech men! George Arey, after completing his job assignment in Turkey, went to England, determined to make the Atlantic crossing in his own boat. He purchased the 47-foot ketch *Nina* at Chichester, England and then advertised for a crew in London newspapers. The crew was composed of a radioman, engineer, sail handler, navigator, and a cook with George as the skipper. Goldie Beldame, 20, was the cook. Description follows: "a very pretty English girl with dark blonde hair cut in a windblown bob, eyes that can alternate between laughter and seriousness, and so on."

The *Nina* sailed last June 21 from England and 12 days and 1,100 miles later was at the Madeira Islands off Africa. After a week's preparation, they set out on the 25-day crossing to Bermuda, 3,000 miles away, and shortly afterwards, the 630-mile run to New Bedford, Mass., was made in nine days. The final anchorage place was the Charles River Basin. George expected to sell the *Nina* and get back to his "terra firma" engineering work. A hearty Navy style "Well done," George!

Fred and Betty Lehmann headed "up New England Way" after Fred said "adieu" to the Air Force. Betty is finishing up her studies at Tech while Fred divides his time between working in the Division of Defense Labs and taking a few courses. Last October Irene and I visited the "HiFi" Audio Fair in New York – surprisingly enough, we did not notice any Course VI '51 men wandering in the midst of binaural reproduction exhibits,

tweeters and woofers, amplifiers, and so on. The news well is dry which means it's time to put down ye olde John Hancock. News via cards, letters, telegrams will be appreciated. – STANLEY J. MARCEWICZ, *Secretary,* Route 2, Highland, N.Y.

• 1952 •

So far this writer (?) has been unable to find any takers on the missing persons contest. Somebody who writes must read this column; at least somebody does, don't they? I do, sometimes.

At least I got a nice newsy letter from Stan Sydney. He mentions something about money in it; Stan's letters are getting like the income tax people, that is, regular, polite, and trying to separate us from that stuff. Just kidding, of course, Stan; but did you have to steal a paragraph from this column with your chatty facts about us in '52?

Well, anyway some '52 men are doing all right for themselves. If any of you were reading the September 21, 1953, issue of *Time* (that weekly rival of this magazine), you may have noticed an article in the science section about the disposal of radioactive wastes citing a Nucleonics paper written by A. C. Herrington, R. G. Shaver and C. W. Sorenson of Oak Ridge. These are those Course X Three Musketeers – Art, Bob, and Chuck. Congrats, boys. There's a place waiting for Chuck in the Chemical Corps since he has now become so much of an expert on waste disposal.

At least, John (Camp, that is), it will be easy to mention your name in this column this month; you have finally done something. Yep, folks; John got rigged into a wedding-type suit on the 10th of October in Andover, Mass., for a little combination with Dorothy Dodge. John, as you may remember, is connected with the Chemical Corps in Baltimore, Md., in an advisory capacity.

Some more hitchings to report. One of our own Ph.D.s, Arthur Fairhall was wed on September 4 to Edith Holland, of South Weymouth, Mass., in nearby East Weymouth. Art is at present doing research at the Institute.

Bill Mann, a '52 M.S. (or is it S.M.) receiver, was married to Joyce Partenheimer, of Maplewood, N.J., on August 29 in Maplewood. Bill has been assistant director of Practice School in Oak Ridge and is now an instructor in chemical engineering at the Institute.

On August 22 in Plainfield, N.J., the paths of Susan Hand, of Oyster Harbors, Mass., and Zenas Crocker were tied together. (At last, another way to say they were hitched.) No report on what Zenas is doing for a living nowadays; he might still be honeymooning.

My apologies to Gerry and Anita Laufs for not mentioning the name of their daughter in the last issue. Her name is Susan, born 2:40 A.M., May 24, weighed 7 lbs. 7 ozs. I hope that all is forgiven.

Skimmings from the mailbag: Bob Briber, our own Poo-Bah, writes: "It all goes to show you that you just cannot trust the Army. Since the last time I wrote you, I have seen quite a bit of the Army and of the country. I drove from Denver to Fort Sheridan, thinking I was to report there on the 30th of June. It seems that I was really supposed to report to Camp Crowder, Mo., except that no one had bothered to tell me. I spent about three weeks in Crowder, being processed, and then was sent to Fort Riley, Kansas, to attend an Instructor Training Course and a C.B.R. School (Chemical, Biological, and Radiological School). So I have been here about a month now; chances are better than even of my being transferred to Camp Carson, Colo., just in time for the end of the fishing and hunting seasons." The latest word on Bob is that instead of Colorado he ended up at Fort McClellan, Ala., whence all Chemical Corps second johns must wander. Oh, yes; Bob also mentions a nice note from Swami Venkataraman, who sends his best to all of his friends from Madras, India.

Stan Sydney wrote (this was last June) the following information: "Bob Shaver married Rosalie Curtis of Minneapolis on June 6. Charlie Poppe and Marilyn Luke are exchanging vows this Saturday, the 13th. Marilyn is from Woburn and has been teaching school. Ben Agusta is going to marry Josette Galente of Brooklyn on August 30. Ben has been doing some teaching in the E.E. Department and will be back next year to finish up for his S.M. degree."

Marty Kay, now Lieutenant Kay, wrote: "College life is finally over for me. I've just got my M.S. from the University of Connecticut and I'm looking forward to two happy years with Uncle Sammy. I just heard from Dick Heitman and he says that both he and Howie Zasloff are still struggling with their theses at dear old Princeton. I report to Fort Dix on June 30." Yep, Marty, I'm still holding on to my same job.

Sarkis Zartarian wrote: "Arnie Kramer wrote you a couple of months ago that a bunch of us were here at Fort Lee, going through the basic officer's course. I was one of the first down here, coming down in the latter part of the summer of 1952. I had spent a couple of months working at the General Electric plant in Lynn, Mass., in the production department of the Lighting and Rectifier Division. After going to the 'Second Lieutenant's College' here at Fort Lee, I was given orders to remain here working at the Quartermaster Technical Training Service. So far I've spent most of my time making management studies of the various operating divisions, teaching work simplification to the supervisors, and am now going to be in charge of the U.S. Army Field Printing Plant here, until I go overseas in the latter part of the summer."

Also a communique from one of our overseas correspondents, "FECOM" Jack Copenhefer who says: "I sat and sat in Seattle waiting to get a plane out for Tokyo. There was nothing to do but goof off and go into town. I did get to see Bob Arbuckle a few times and he seems to be doing well at Boeing. After 18 days of waiting I finally got on a Northwest Airlines flight, traveling the great circle route through Anchorage, Alaska, the Aleutians, and then Tokyo. Ah, Tokyo, what a dirty place. About 30 blocks square downtown area full of life and women and the rest wretched slums. Shopping is a real thrill here; things are remarkably cheap. I stayed at Camp Drake near Tokyo for nine days. I was then shipped down to a small island, Eta Jima, about 400 miles southeast of Tokyo to attend a two-week C.B.R. course. My orders then will take me on to Pusan. I have no idea what I will be doing there, since Army service school training doesn't seem to make much difference here. I think George Zavalakes is already in Korea, but I'm not too sure about that."

Extra tidbits on the Armed Forces: Bob Walsh, now Lieutenant Walsh of the Chemical Corps, is due to arrive from Fort McClellan to join Lou Karvelas and me at the New York Chemical Procurement District. Lieutenants Al Hofstatter and Mike Sapuppo, Ordnance Corps, late of Aberdeen Proving Grounds and Watertown Arsenal, are now basking in the European atmosphere, courtesy of Uncle Sam. Lieutenant Dirk Plummer, Chemical Corps, spent the summer teaching the kiddies swimming at Pine Bluff Arsenal, Ark. In his spare time he was assistant chief of the Productions Division of the Arsenal. Dirk recently established a new Fourth Army record of 2:01.6 for the 150-meter backstroke while representing the Arsenal in the Fourth Army Championship Swimming Meet at Fort Bliss, Texas. Lieutenant Bob Damon, another Chemical Corps man from Ft. McClellan, Ala., recently served as an umpire during the Army's fifth logistical support exercise at Camp Pickett, Va. Phil Gibber and Bob Lynch are both recent (June) graduates of the U.S. Naval School, Pre-Flight, at Pensacola, Fla. They are both now engaged in primary flight training at Whiting Field, Milton, Fla. Seen while at Dayton, Ohio, were Lieutenants Phil Schirm and Gus Rath, U.S.A.F. Phil is now a contracting officer for the Air Research and Development Command, while Gus is doing statistical psychological research on instrument panels (I'm not sure of what he does either). I also heard that Larry Mayer and Howie Anderson were also around Wright-Patterson, but I did not have a chance to see them. I went casting for fish with Sam Mitchell (of Rocky Mountain Arsenal fame) out in Colorado; Eisenhower was also out there then, but he was catching fish. Sam is ferociously training his 'Sewing Machine Platoon' at present. I ran into Ed Facey last week end at Army Chemical Center, Maryland. What a surprise to see him in a loosely fitting olive drab uniform. Ed is now a private stationed with the Chemical Corps Engineering Agency.

And about some civilians: Hal Larson learning to drill teeth at Loyola School of Dentistry in Chicago. He is now learning to smile and still have a fiendish glint in his eyes – a true dentist. Lennie Polaner back at Harvard Business School after a summer expedition in France, Switzerland, Italy, Germany, The Low Countries, Great Britain, with pretenses made at working with a meat packing company in Paris. Charlie Hecht has just been awarded a fellowship in chemistry sponsored by the Solvay Process Division of the Allied Chemical and Dye Corporation. Al Andrus, recently of the National Broadcasting Company (not of the National Biscuit Company, as once reported in this column), has joined the engineer-

ing staff of WICC-TV in Bridgeport, Conn.

As a Christmas present to you all, I'll shut up now. Happy holiday. – STANLEY I. BUCHIN, *Secretary*, 150 Tryon Avenue, Englewood, N.J.

• 1953 •

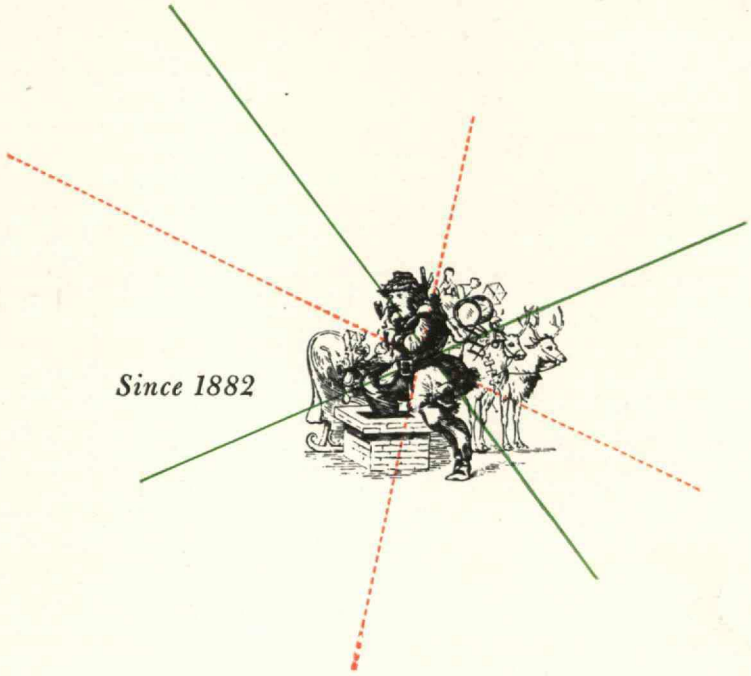
Once again, we meet through the medium of the printed word, with the Armed Forces and marriage destined to become our principal topics of conversation. Last Saturday, I was purchasing a few items of clothing (suitable for use in the clammy, yet tranquil – for the present anyway – atmosphere in Korea) at Ft. McNair and I met Tony Zaia, a "displaced" Army Security Agency man who is now stationed in Arlington, Va. Tony and a half dozen or so other men from Tech seem pretty happy with their present status. They have an apartment "off post" and expound its virtues – both monetary and otherwise. Since our last meeting – the November Issue – six more men from Tech have graced Fort Belvoir with their presence. The new arrivals include Fran Turcotte, Everett (Jeff) Davis, Will Round, Mike Levy, Dick McCarthy and Bill Phinney. All are assigned to the Student Officer's Company. Bill Phinney arrived with, among other things, an attractive wife.

Also along military lines, Robert Tessier was among the draftees leaving Chicopee, Mass., in the August contingent. The Air Force gained a group of new second lieutenants at their commissioning exercises which came at the end of summer R.O.T.C. Camp. James Bomba, Chuck Buntschuh, Robert Chapman, Richard Daly, Roland Plante, Constantine Scarlatos and George Thompson received their Reserve Air Force commissions upon the completion of summer camp at Westover Air Force Base.

I received a happy note from Jack Pinkovitz who is working as a general engineer, and acting co-ordination branch head in the Controls and Guidance Division at the U. S. Naval Underwater Ordnance Station. Jack comments that there are enough M.I.T. men at the station to initiate an M.I.T. Club of Newport. He expressed some elation over the fact that Dick Marciano, XV, and he have an apartment strategically located next to a local girls' school. Also via the U. S. Main came the glad tiding of the birth of Carol Jean Manahan – the proud parents: George and Marian Manahan.

We now shall turn to a dozen or so classmates who have followed in the seemingly infinite queue of those who have succumbed (voluntarily and maybe with a little prodding) to Cupid's shackles of delight. Gerald Fish and Jean White (four years at Tech in architecture) were married in the latter part of June. Jean plans to finish her studies at the University of Toronto. Zoltan Lucas and Kathryn Hyson were married the Saturday after graduation. Also on the wedding roster for June were Richard Watson and James Nelson. Richard was married to the former Carol Ann Wilson (Radcliffe '53) and James to Muriel Virginia Maxwell (Vassar'53). Jim is enrolled in the engineering training program with Westinghouse. Harold Tzeklenis and Anna H. Gogos were married in the latter part of June. Anna is a graduate of the Prince School of Retailing and Simmons College.

You may recall the reference made in the July issue to Benjamin Coe and Margaret Butler's engaged status. On September 6, Ben and Margaret were married in Millburn, N. J. Ben is one of my fellow combined planners (B.A. from Bowdoin) and Margaret is a graduate of Mt. Holyoke. For the month of August our retinue of newlyweds includes Stetson Winkfield and John Hampshire. Stetson was married to the former Jean Louise Chapman, and John to Martha J. Long. Let me sandwich an engagement announcement in at this point – Wolf Haberman and Berna Gae Bernstein (Simmons College). An October wedding is being planned as these words are written. September seems to be a pretty lean marriage month. Robert Sturdy was married to Joyce Luckett (graduate of Colby Junior College), Orlin Darrach to Eleanor Pearson (Fisher College) and Robert Breed to Carolyn Elizabeth Hannauer (M.I.T.'52), Orlin and party are living in Pittsburgh where he is employed by Westington, and Robert and Carolyn will live in Wellesley Hills while Bob finishes school. You know, that seems to exhaust our literary talents for this month – will call again in 30 days. – VINSON W. BRONSON, JR., *Secretary*, 33 Wooster Heights, Danbury, Conn.



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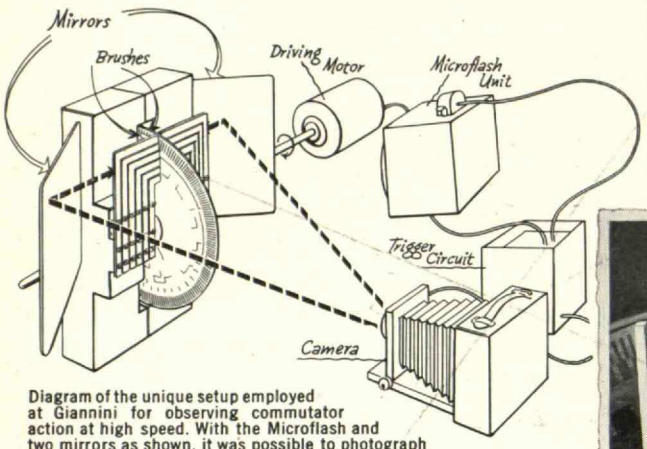
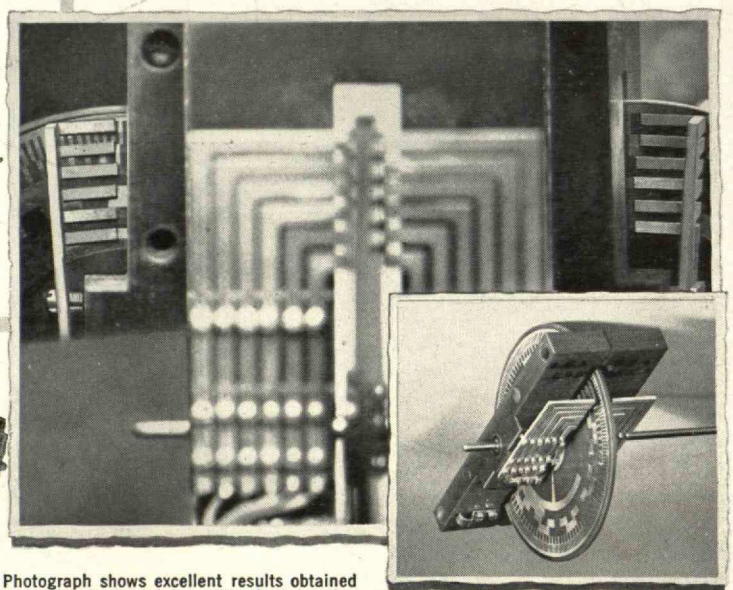


Diagram of the unique setup employed at Giannini for observing commutator action at high speed. With the Microflash and two mirrors as shown, it was possible to photograph both sides of the commutator at the same instant of time and with equal exposure.

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Photograph shows excellent results obtained with Microflash high-intensity, short-duration illumination. Back view of either side of commutator and front view are shown. Photos courtesy G. M. Giannini and Company, Inc.

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